Introductory Address

ON

REST AND MOVEMENT IN TUBERCULOSIS.

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BY

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FOUR years ago, when I had the honour to deliver the introductory address to your society, I directed your attention to the public aspects of the prevention of consumption.[1] It was my endeavour to show the need which exists in every community for a systematized plan of antituberculosis effort similar to that which is now generally known as the "Edinburgh scheme."

In responding to the kind invitation of your President that I should again inaugurate the course of winter lectures, it has occurred to me that you may be interested to hear something regarding the application of the great principles of rest and movement in the treatment of tuberculosis. My thoughts run in this direction because it chances that this year has witnessed the opening of an important addition to the institutions of Edinburgh concerned with the combat against tuberculosis. The Farm Colony—the latest outpost in the campaign—will occupy itself especially with the application of the principle of movement in the treatment of tuberculosis. It is a principle which has for long constituted a chief element in the regimen pursued at the Royal Victoria Hospital for Consumption.

My hope and expectation is that the Farm Colony will succeed, through the longer residence and fresh interest, in rendering permanent for a still larger number the satisfactory recovery which is commonly achieved by the Hospital Scheme of graduated activity.

Change of Outlook on Tuberculosis.

A quarter of a century ago, the conception of the treatment of consumption and allied diseases was entirely different from to-day. *Then* the patient, whose illness was interpreted as the result of exposure and neglected cold, was protected in every possible way. The pallid, worn, emaciated—perhaps hectic—sufferer was metaphorically and often practically wrapped in cotton wadding and preserved, as it were, in a glass case or bandbox. The physician of that time commonly believed he "might not beteem the winds of heaven visit his patient's face too roughly."

Now contrariwise aërotherapy, or the physiological application of open air in treatment, is one of the widely accepted facts of modern therapeutics. It is happily beginning to be recognized that aërotherapy is serviceable not merely in consumption, but in the treatment of most diseases. Aërotherapy is a principle of universal applicability in all lands, at all seasons, and in every sick room. Aërotherapy is a preventive measure of incomparable value. My profound conviction is that, were the vitalizing properties of open air truly understood and utilized, the larger part of disease would cease to be. The day-by-day life of the community would be run on a higher level and the advance of old age would be hindered. The world has yet far to go before it realizes practically the tremendous significance of the mighty principle. Its half-hearted application in prevention and treatment remains one of the most unintelligible sins of the age.

For our purpose to-night it suffices to recall that the majority of physicians have adopted more or less fully the principle of aërotherapy in the treatment of tuberculosis. The question now before us is—Granted that the patient is to be treated on open-air principles, what then? Is he to be kept at rest? or is he to be allowed movement, and, if so, in what form and to what extent?

Most of the older school of doctors—and the school is far from extinct—favoured almost complete rest of the consumptive patient. It was argued that to heal a congested and perhaps ulcerated lung rest was essential. It seemed an almost elementary proposition that the less movement the better for the patient. Movement would presumably injure the lung, both directly and indirectly, through excitement of the circulation and nervous system. I quote from a recent American writer. "A lung," he says,[2] "that is tuberculous should be exercised as little as possible. It should be kept as still as may be, to the end that its recovery may be hastened." The statement contains a truth, but the proposition is made too universal. And so in a good many places still, the majority of consumptive patients are kept for lengthy periods at almost constant rest.

We shall see presently that while rest is helpful, and indeed essential, at certain times, the prolonged continuance of resting treatment is fraught with unsatisfactory results. The patients may seem in many instances to improve. Perhaps they put on weight in large amount. Often they become heavy and corpulent, but it is commonly mere fat; the skin textures remain pallid and toneless; the muscular tissue remains soft and flabby, and the individual himself is far from physiologically fit.

The practice of continued rest in consumption proceeded from a faulty, because insufficient, conception of the disease. The attention of the physician was directed chiefly to the local lung lesion. The conception had hardly dawned—even yet it is insufficiently realized—that the lung lesion is a relatively small part of the illness. The gradual descent downwards, pathetically described in popular language as "decline" or "consumption," is not an expression of the lung disease as such, but rather of a systemic or constitutional intoxication to which I shall presently refer more fully.

Even in respect of the affected lung itself insistence on rest beyond a certain degree and in special circumstances is most fallacious. Let me cite a fact or two in this connexion. In the early days of my work in this department—more than twenty years ago, when the systematized scheme of activity had not been elaborated, when there was no sanatorium for consumption in Great Britain—we instituted classes for physical movement and respiratory exercises in connexion with the Victoria Dispensary for Consumption. With the help of successive officers of the Dispensary I arranged such classes for selected cases from the immense *clientèle* of the institution. The patients used to come—often long distances—at fixed hours and enjoy regular training with regard to posture and healthy respiratory movement. More especially the young were taught the value of a healthy form of chest. Such physiological points were insisted on as nose breathing and the value of slow and full diaphragmatic movement. In addition to this, measured walks of varying amount and gradient were prescribed, exactly as we prescribed medicines. Thus we had walks radiating from the Dispensary round the Meadows, walks over the Bruntsfield Links, and walks in various directions on the slopes of Arthur's Seat. The patients reported, at successive visits, their experience in carrying out such instructions, and notes were made of the effects produced.

The results were eminently satisfactory. The patients did remarkably well, and no accident was traced to the adoption of active movement instead of rest. The experience led to a change in my outlook in relation to the meaning of treatment in tuberculosis.

Two practical conclusions of public interest forced themselves early on my mind. The first was that an enormous amount of benefit might be achieved for tuberculous patients of the poorer class by an extension of the system of home visitation and direction; in other words, that the home treatment of the tuberculous poor from a well-regulated tuberculosis dispensary might be made to play a most effective part in the solution of the great tuberculous problem. This led to the completer development of the dispensary system. The second conclusion was that we might hope, by the establishment of hospitals or sanatoriums for patients in the earlier stages, to achieve permanent cures to a degree not hitherto dreamt of, by elaboration of the principle of regulated exercises and graded activity of different kinds.

I am happy to say that these conclusions have been justified in the results obtained from day to day, on the one hand in the home treatment undertaken for so many years from the Victoria Dispensary, and, on the other, in

the systematized regimen of work at the Royal Victoria Hospital and the recently opened Farm Colony.

Neuro muscular Intoxication.

The conclusions involve a much wider conception of tuberculosis than that which concerns the local mischief within the lung. This has regard to the effects of the disease on the patient's system. Tuberculosis implies a progressive intoxication. The toxins produced by the tubercle bacillus appear to exert their vicious influence particularly on the neuro-muscular apparatus.[3] The toxin is especially a muscle poison.

This view can hardly be accentuated too much. It illuminates many points in the morbid history of the consumptive which have not been hitherto sufficiently explained.

Thus, what are the earliest symptoms which the patient manifests? They are not, as is usually supposed, referable to the lungs. The disease is far on when the patient begins to cough and expectorate. Long before local symptoms show themselves, the patient—although he may not understand it or still less complain of it—has experienced a sense of tiredness, languor, disability for mental and bodily effort, enfeeblement of circulation and gastro-intestinal disablement, including loss of appetite, dyspepsia, constipation, etc.

The occurrence of such symptoms must not be passed over lightly. Contrariwise, the practitioner of experience watches for their first appearance. They are to be interpreted not vaguely as evidence of overwork, but as evidence of the systemic, and, more particularly, the muscular poisoning to which I have alluded.

This process of muscular poisoning reveals itself *visibly* and *palpably* in the progressive wasting of the muscles, both of trunk and extremities, their advancing flaccidity and the increase of what is termed "myotatic irritability." This condition of muscle is an expression of malnutrition. It is a muscular dystrophy dependent on intoxication.

In this sense, tuberculosis may be defined as a constitutional disease, dependent on invasion by the tubercle bacillus and characterized by various local lesions and widespread systemic intoxication, which reveals itself especially by generalized progressive muscular dystrophy.

Incidentally, it is interesting to note that while the toxin of tuberculosis constitutes a muscle poison, muscle itself is one of the few structures on which the tubercle bacillus does not readily grow. It is possible that the elective affinity of the toxin for muscular structure may have some bearing on this.

Indications for Alternating Rest and Movement.

Returning to the question of rest or movement, how are we to apply the principle to the varying manifestations of disease which occur?

So long as the tuberculous process is in active operation toxins are readily elaborated and passed freely to the muscles with resultant progressive dystrophy. This dystrophy affects not only the muscles of the trunk and extremities *where it is evident*, but affects likewise the heart muscle, the muscles of the vessels, and the muscles of other viscera. At this stage the indication for treatment is mainly rest. Rest has the double advantage of tending to stay the active local lesion and of limiting the output of energy by the dystrophic muscles.

On the other hand, when the tuberculous lesion is less active or in process of arrest, and the production and carriage of toxins is correspondingly less abundant and rapid, the dystrophic muscles tend to recover themselves physiologically.

Nothing repairs muscular tissue so certainly as natural movement. This is the *motif* and guide in the institution of regular activity.

Let me recall the fact that tuberculosis tends to occur more frequently in persons who lead a sedentary, or at least a relatively inactive, life. This is not an absolute rule, but its application is a wide one. I may go further and say that, in proportion as the individual whose work involves a sedentary existence indoors counteracts the fault of his life by regular activity in the open air after working hours, the tendency to tuberculosis is limited and may be overcome.

I may remind you that the same principle may be traced in comparative pathology. Which are the animals most frequently affected by tuberculosis? Not the dog, not the horse, not the goat. It is the stalled cow which suffers most; and of the bovine species there is a marked difference as to frequency between comfortably-housed milch cattle and Highland cattle living a relatively active out-of-door life during the greater part of the year.

It is likewise freely admitted that nothing so certainly checks the earliest threatenings of tuberculous disease in the child, whether in glands, lungs, or elsewhere, as turning the patient out into the wild and letting him lead the natural, active life of the Highland pony.

It is a different matter, when the tuberculous process is further advanced and lung destruction is in progress. Here we are face to face with morbid conditions, both local and general, which are best met by rest.

Take, for example, the occurrence—say, the repeated occurrence—of bleeding from a cavity within the lung. It goes without saying that here rest, both mental and physical, is to be enjoined.

Again, where the lung is breaking down rapidly and there is continued absorption of poisonous products, with corresponding systemic intoxication, evidenced by disturbance of temperature, increased pulse-rate, and rapid muscular wasting, rest must be the order of the day. The excessive waste must be met by economy in wear and tear. The circulation, which is the chief channel of dissemination of the poison, must be kept as quiet as possible.

As acuter manifestations disappear under the influence of rest, and the risk of local and constitutional disturbance is reduced, the need for complete rest is lessened or removed. This is in keeping with the facts of pathology in relation to other acute morbid processes.

As recovery proceeds further, the aim comes to be the restoration of physiological function—both locally, so far as the respiratory function of the lung is concerned, and generally, so far as the circulation and musculature are concerned. The process of repair is most *readily traceable in the muscles of the trunk and extremities*. By the institution of natural movements, the physiological cure or "recreation" is assisted, and there follows a gradual return towards the normal condition of health of every organ. I need hardly remind you that, for us all, health is largely governed by the harmonious alternation of activity and rest.

While natural repair is thus hastened by carefully adjusted movement, there is reason to suppose that at the same time a degree of relative immunization to tuberculosis is secured. It may be that under the influence of activity a process of autoinoculation is instituted. That is to say, by reason of the accelerated circulation a certain amount of toxin is carried through the system. The presence of the toxin stimulates the system to react, and to produce certain opposing elements or antibodies.

If we can adjust the activity so nicely as to lead to the discharge of just so much toxin as will cause a serviceable and not an excessive reaction, we may hope to achieve by natural methods what we seek to effect in the treatment of tuberculosis by vaccine therapy—that is, by the use of tuberculin.

It will be readily understood that during an *acute* tuberculous process, with disintegration of lung tissue, the manufacture of toxins and their subsequent discharge into the circulation may be in excess of the possible production of antibodies by the system. The tissues are thus left to soak in a highly toxic element, without the antagonistic influence which in *less acute* processes Nature herself is able to provide unaided or may be induced artificially to afford.

Regulation of Dosage.

The amount of activity allowed must in every case be determined with exactness. There must be a careful estimation of dosage. Regard must be paid not vaguely to the nature of the case or the so-called stage of disease, but adjustment must be guided by the needs of the *individual* patient. It is easy by over-keenness and haste to thwart the effect which the physician is seeking to attain. Activity in excess may serve to aggravate the local process. The lung trouble may once more take on an acute character, and, what is especially significant, the

excessive discharge of toxins through the system may be recommenced. In other words, an exaggerated auto-inoculation may ensue with corresponding retardation of cure.

Systemic disturbance from excessive activity reveals itself by evidence which is available to the physician and even to the patient. Unhappily, both patient and physician, if not keenly alive to the possibility, may fail to trace the disturbance to its proper source. The evidence available may include such symptoms as loss of appetite, malaise, headache, less or more fever, and increased pulse-rate.

The possible occurrence of these untoward effects implies the need for most careful supervision of persons undergoing treatment by movement for some little time at least. It is only the watchful observer in frequent relationship with the patient who can quickly discriminate the effects of excessive dosage and who can wisely determine the decrease or increase of dose in a given case.

On this account, such treatment can be more efficiently initiated in a hospital or farm colony, where the patients are more or less constantly under the eye of a trained observer and where increase of dosage is sanctioned only where no contraindication is present. Under such conditions the degree of tolerance on the part of the patient can be studied with great exactness. The regulation of the dosage thus becomes a scientific procedure.

It is another matter when patients endeavour to regulate the treatment themselves. There is, of course, a natural desire on the part of the patient to progress. Minor indications of danger or positive harm are apt to be missed and the limits of tolerance passed. Danger signals are passed and accidents happen. The result is failure, disappointment, and even larger disaster. The fault is not one of the system but of the manner in which it was carried out.

I have said that indications for the reduction of activity will be found in increased rapidity of pulse-rate and irregular oscillation of temperature just above the normal line. Indications for the *completer* cessation of active movement and a return to more or less complete rest are afforded by elevation of temperature over 99 F., a continuing pulse-rate of over 95 per minute with corresponding diminution of blood pressure, recurrent headache, especially at the end of the day, and an undue sense of fatigue.

Where no such contraindications occur, it is found possible to increase the activity undertaken until its amount be as great as, or, indeed, until it is much greater than, the activity previously undertaken by the individual in health.

After sufficient trial at this high level, the patient may commonly be allowed to guide himself as to the discharge of energy, which is sufficient to keep him in condition and is not excessive. It is possible that by this time the local and constitutional damage have been satisfactorily repaired and the affected person has undergone a sound, physiological education which he is not likely to forget.

Such considerations and facts have formed the basis of the scheme of physical treatment which has gradually been elaborated and systematized during the past eight or ten years at the Royal Victoria Hospital, and to the details of which I shall refer in a moment or two.

For the majority of the patients, the regimen as carried out within the hospital is found to be complete, and the patients are commonly rendered fit to return to ordinary duty. In the case of some 25 per cent. of the patients, however, there is need for something more. It has been found that, after the disease seems to have been arrested and the muscles have recovered size and tone, these persons remain unduly liable to relapse. An immediate return to their ordinary avocations, more especially in the case of indoor workers, is apt to involve recurrence of trouble. This implies disappointment and economic leakage, which I believe might be saved. It is for this class of persons that the Farm Colony was conceived. The colony is a kind of post-graduate school suited to the requirements of a certain number of individuals, who need more prolonged surveillance and direction than is convenient at the hospital.

Scheme of Physical Treatment.

A rapid sketch of the scheme as carried out at the Royal Victoria Hospital will serve to illustrate the significance of the alternating principles of rest and movement.

On admission each patient is placed at complete rest. During this stage, in addition to minute examination of every organ, the patient's general condition is carefully observed. According to the estimate which is made, the length of the resting period is fixed. Thereafter, in the absence of contraindication, the patient is gradually advanced through the other stages, according to his or her physical condition. The nature and amount of activity are definitely prescribed, just like drug treatment. The dose is increased or diminished as the temperature chart, pulse-rate, and other indications suggest. A coloured badge is given to the patient to denote the stage he has reached.

I. RESTING STAGE. (*White Badge.*)

On admission to the hospital all patients are prescribed complete rest, lasting from a few days to several weeks, according to the individual case.

II. STAGE OF REGULATED EXERCISES. (*Yellow Badge.*)

This includes:

1. Walking varying distances, from ¼ mile to 5 miles—(*a*) on the level; (*b*) on sloping ground.
2. Various respiratory exercises once or twice a day.
3. Other forms of movements to improve carriage of shoulders, head, chest, etc.

III. STAGE OF REGULATED WORK.

The work is chosen with a view to utility and with due regard to the patient's individual case, and to his past trade. This stage is subdivided into four grades (*A.*, *B.*, *C.*, *D.*).

III A. (*Pale Blue Badge.*)

Picking up papers, leaves, and other light rubbish in the grounds.
Knitting. Sewing. Drawing.

III B. (*Green Badge.*)

Emptying garden waste boxes, and assisting to carry away rubbish.
Carrying light baskets for various gardening purposes.
Light painting work (gates, fences, furniture, etc.).
Wiping shelters. Setting tables and laying cloth in patients' dining-room.
Cleaning silver.
Cleaning brasses, towel rails, and taps.

III C. (*Deep Blue Badge.*)

Raking. Hoeing. Mowing. Sweeping leaves.
Drawing two-wheeled barrow with assistance.
Other gardening jobs requiring a similar amount of exertion.
Heavier painting work.
Sweeping shelters. Scrubbing floors.
Cleaning boots. Cleaning knives.
Assisting in laundry (folding clothes, etc.).
Washing and drying dishes.

III D. (*Red Badge.*)

Digging. Sawing.
Carrying heavy baskets for various gardening purposes.
Wheeling and drawing full wheelbarrow, and other heavy gardening work.
Drawing bath chair.
Bathing other patients.
Mangling. Window cleaning.
Polishing floors. Sweeping and cleaning courtyard.
Carpentering. Joinering.
Attending boiler. Engineering.

N.B.—In Grades *B.*, *C.*, and *D.* patients make their own beds and go errands if necessary.

Results.

As to results, I am happy to say that it has worked admirably. The progressive improvement on the majority of the patients has been striking. Physically, the results are registrable from day to day in satisfactory fashion.

The results include a progressive sense of well-being, keenness to live and work, healthy appetite and digestion, return of fresh colour to face and skin, and gain in weight. I find, for example, that of a total of 109 patients now under treatment at the Royal Victoria Hospital, no fewer than 103 have gained weight. I would have you especially note that the gain in weight is dependent *not* on fatty overloading but on *increase of muscular tissue*. The latter is the most striking phenomenon of all, and I shall throw on the screen several illustrations of this *visible* and *palpable* change. It is an increase in both size and tone, with corresponding increase of working capacity.

Taking the collective body of patients present in the hospital at any one time, the system produces a fine procession of persons, some just emerging from serious

sickness and others at varying stages of advance towards perfect recovery, the patients severally and literally "working out their own salvation."

At the present moment—and this is a pretty usual distribution—I find that more than one-third of the patients have already reached the two highest grades of activity, namely, III C. and III D. Taking the male patients, who happen to number 47, I find that no fewer than 17 have reached these higher stages. I have before me a detailed report of the progress of these individuals. I shall not trouble you with all the details, but content myself with the statement that every one of them has made a remarkable increase in muscle value, and all have put on weight, from a few pounds up to 21 lb. While on admission the record of the patient's condition commonly includes one or other of the following phrases: "weakness," "hectic flush," "quite unfit for work," "very thin and delicate," "very great weakness," "worn-out appearance," "easily tired on exertion," "quite done up," "thoroughly run down," etc., with corresponding involvement of lung (in all patients both lungs having been affected), the present record runs somewhat as follows: "symptoms have almost entirely disappeared," "feels splendid," "looks very fit," "general and local symptoms have entirely passed away," "able to do a full day's hard work," "enjoying very hard work which he has never been able to do before, with no feeling of tiredness," "never felt better in his life," with corresponding improvement of the local condition within the lungs.

We have, of course, our disappointments. Tuberculosis strikes different persons unequally. At times the course of illness is so acute that no help is of avail. At other times treatment, from one cause or another, has been delayed too long. Sometimes the resisting power of a patient is unduly low. But given a patient of ordinary resisting power, in whom the disease has made slight inroad or, at most, only moderate advance, there is good expectation that under sufficiently prolonged treatment by aërotherapy, rest, and carefully graded activity, a return to health will be achieved. In many instances, the physiological value of the procedure is such as to place the individual on a higher plane of health than he ever reached hitherto.

REFERENCES.

[1] BRITISH MEDICAL JOURNAL, December 1st, 1906. [2] *Transactions of the Sixth International Congress on Tuberculosis*, Washington, 1908, vol. i, part 2, p. 922. [3] *Transactions of International Medical Congress*, Washington, 1887, vol. i, p. 205.

A Lecture

ON

"EYE" IN SPORT.

DELIVERED AT ST. THOMAS'S HOSPITAL BEFORE THE MEDICAL AND PHYSICAL SOCIETY.

BY

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My attention was first particularly drawn to the subject by an article in *Fry's Magazine* in 1908 by "R.A.M.C." It purported to describe the physiology of sight in games, and was entitled "The Eye in Sport." The article was well written and interesting. I feel convinced that "R.A.M.C." is a sportsman and a good fellow. This impression will give me grounds for hoping that he will forgive me for attacking his article, and for pointing out that there was scarcely a correct explanation throughout.

When we speak of "eye" we do not mean the two portions of one's body that are situated on each side of the nose. They have, indeed, a very important share in establishing "eye," but nothing more. "Eye" really exists in the brain. It is, in fact, a very compound thing, a subconscious brain judgement involving many other organs than the actual anatomical eyes. It involves knowledge, experience, very largely the sense of touch, and sometimes the sense of hearing or smell. This important fact is generally lost sight of, and it is the pitfall in which "R.A.M.C." hopelessly flounders. He and others, among whom are particularly gunmakers, are obsessed with ideas of the power of the so-called master eye. It is the use of the master eye, they say, that enables you to shoot straight, to hit a golf ball, to smash a tennis ball, to pot the red, and such other things in the same category that call for the use of "eye." "R.A.M.C." emphasizes this mistake at every turn, and it is the main object of this lecture to explain what is the real meaning of "eye," and to remove the false impression that the master eye in the normal individual is of the paramount importance that is usually attributed to it. I wish to point out, among other things, why in golf the phrase "Keep your eye on the ball" should be (*pace* "R.A.M.C.") "Keep your eyes on the ball"; why in shooting your gun shou'd not be twisted into all sorts of fantastic shapes at the will of the gunmaker; why in cricket the more modern position of standing square to and facing the bowler generally produces the best bats, and why in billiards you should use both eyes as most do, and not only the master.

There is no doubt of the fact that there is a master eye, and this can be proved in numerous ways. In right-handed people, where the acuity of vision in each eye is equally good or nearly so, it is usually the right eye. When, however, the visual acuity of one eye is defective, then the other eye, whichever it may be, is selected for the mastership. In certain pursuits, rifle shooting for instance, the use of one eye is essential, for it is a physical impossibility to align backsight, foresight, and the target with each eye at the same time, and if you do not mentally grasp this point, it is easily illustrated by a rough drawing. Place two dots side by side to represent the two eyes, put another dot as far off as you like to represent the target. Now draw lines to represent the lines of vision from the two eye dots to the target dot. Let a fourth dot represent the sights of the rifle and it is obvious you cannot place it in both lines of vision at the same time. You can place it in one or the other, but not in both; and here I may explain what is the stock argument of gunmakers and others who advocate cast-off guns when the left eye is the master. They point out that, if he fires from the right shoulder, the left master eyed man places the breech end of the barrels which corresponds to the back sight of a rifle in the line of vision of the right eye and the bead at the end of the barrel in the line of vision of the left eye, and consequently the shot goes wide to the left; and this is perfectly true if the individual tries to shoot in this way, but the cure is not to make a distorted monstrosity of his gun, but to teach him to shoot properly, which, as I shall presently point out, is to disregard his gun altogether so far as direct vision is concerned.

Destructive criticism is very cheap; therefore I propose now to devote my attention to constructive criticism and to explain in greater detail the meaning of "eye." I am fully aware that I shall lay myself out in turn to a vast amount of adverse criticism, but in my arrogant belief in the correctness of my views I am prepared to meet all and sundry on this ground. I have taken a good deal of trouble, not being an expert at games myself, in talking over the subject fully with those who are experts, and I have found that in nearly all cases they are ready to discuss freely the points of the games in which they are proficient. There is only one class of men that I have found an exceeding great difficulty, and they are in other matters, I should think, the most genial, the most interesting, and come more universally than others into the category of "good sorts." I allude to artists. Knowing nothing about art myself, I have always approached them with great humility and simply as a learner. I am armed with a certain amount of physiological knowledge, and I wish to ascertain how this is dealt with from an artistic point of view. I remember once trying to get some information from a member of my club, a good artist and one of the most genial men at other times whom I have ever met, but all I could get from him was flat contradictions, not on the question of art, but on the facts of physiology of vision, of which presumably I ought to know something. He is not by any means the only one, as I have said before, from whom I have found it impossible to learn. Artists seem to think that one is attacking their art and that no outsider has any right to assume any knowledge that concerns the question of their art. But, of all problems, I think "eye," where it concerns art, is the most interesting, for it is so obviously the mental eye that they use and not merely the

anatomical eyes. However, the question of art does not come within the range of my lecture. Now "eye" is, as I have before suggested, one of the highest products of the brain, and it involves brain stimulation in various centres and in very delicate degrees. "Eye" is not a definite anatomical part of the body, as I have said before, but a judgement of supreme delicacy, and the more delicate the judgement the greater is the proficiency of the performer in the particular direction to which he has given his attention. One must always remember, therefore, when speaking of "eye," that it is the brain potentiality that one has to consider and reckon upon, and not the visual acuity of the anatomical eyes. High visual acuity is, of course, a detail of some importance, but it is not nearly so important as is popularly supposed. One of our best-known cricketers of the present time, who has never worn glasses for playing games, has only one-tenth of the normal visual acuity, and would have been at once rejected from the army on the score of his sight had he wished to enter. It is an interesting fact, but quite true, that when any one boasts that he has far better sight than his friends, his visual acuity is generally below the normal, and sometimes a very considerable degree below the normal. Visual acuity is so relative a thing that a person whose vision, previously good, has fallen to two-thirds of normal acuity will declare that he is going blind, whereas it is frequently the case that a patient who never had more—at any rate, since childhood—than one-tenth the average normal visual acuity will claim to see practically as well as other people; and though possibly he may allow that some may see distant details a little bit better than he does he will not admit that there is much in it. Those who are experienced in sight testing will readily endorse what I say, but to those who are not experienced the statement will seem almost incredible. That veteran ophthalmic surgeon and most genial of men, Henry Power, used to say that a Red Indian with bad sight will see a snake in the grass long before a European whose vision is good. Such things are so much more the result of experience and brain judgement than of actual visual acuity. In the same way a keeper will be able to tell three fields off that there is a hare feeding, whereas a pure cockney might see some little brown patch and not know what it was, though the actual visual acuity of the latter might be better than that of the former. Some years ago, when the notorious cattle maiming case occurred in the Midlands, it was brought forward by some, who I was surprised did not know better, that the fact that the accused had rather a high degree of short sight and had never worn glasses was proof that he could not have seen well enough to have gone about at night and to have done the maiming. Now the fact that he had never worn glasses was the very reason why his short sight should not prevent him finding his way about under such conditions. His brain judgement being trained to draw correct conclusions from imperfect images, he would be the better able to find his way about in uncertain light than one whose brain judgement had been trained to require clear retinal impressions; in the same way a shortsighted person in foggy weather will often more readily recognize acquaintances across a street than one who has normal acuity of vision. In the one case they are trained to establish facts from very indefinite images, and in the other case they are accustomed to rely upon definite images, and miss them to a greater degree when they are not attainable. The myope, besides, recognizes people by their gait, the way they carry their heads, and so on, while a person whose sight is acute is trained to depend on details of features which are not visible under unfavourable conditions.

As regards the cattle maiming case, I am not expressing any opinion as to the guilt of the man who was convicted. I only point out that the fact of his short sight would not weigh one way or the other.

Now, to apply myself more to concrete instances than to abstract ideas, I will point out that judgement of distance by the average sighted person is obtained, not by action of the master eye, but by the action of the two eyes in forming the angle that the line of vision of one eye makes with that of the other by means of the muscles that turn the eyes towards the object—in other words, the muscles that cause the eyes to converge on the object looked at. It is only those who are one-eyed or who have only one useful eye that rely upon the state of the focussing muscle. This is an alternative method, and is a comparatively successful one in those who have never had, or never since childhood, the use of both eyes, but the degree of success is in the inverse ratio to the age of the individual when the second eye was lost. If it requires proof that this method is not ordinarily adopted, it can be obtained in many ways. As everybody knows, a man who has lost one eye has great difficulty, especially at first, in judging distance. In pouring out a glass of wine, he is apt to pour it over the edge, and things of that sort. It is illustrated, too, by failure in the parlour game of walking across a room with one eye bandaged, and attempting to knock over with a side stroke of the finger a cork placed in some conspicuous position; or again, by putting a prism before one eye, base inwards, and thus altering the direction of the rays of light so that the eyes have not to converge so much on looking at any particular object, which will then look as if it were rather further off. Judgement of distance, then, except in a few rare instances, is estimated by the brain effort that has to be sent to the muscles that converge the eye upon the object, and this information is essential to the judgement of how fast an object is travelling, which can then be estimated as relative to its stationary surroundings, but unless you have formed a judgement of the distance of the object, the movement of the eyeballs in following it will not give you any trustworthy information whatsoever. There is another point to which I must allude, and that is the plane in which we use our eyes. It must necessarily, from the position of our eyes in our heads, be the horizontal plane, but when we have fixed the object, our mental judgement, in other words "eye," is exercised in both vertical and horizontal planes, though perhaps more readily in the vertical plane. With these facts before us we may proceed to explain why "keep your eyes on the ball" in golf is more correct than "keep your master eye on the ball." In order to avoid striking the ball untruly you have to possess a subconscious brain knowledge of the exact distance the ball is from you and the exact length of your club. With these two facts impressed on your subconscious mind you must practise the muscles that you use in golf to work in accordance with these two facts, and it is accordingly of very great importance that you should not swing your head too far round to avoid cutting off with your nose the view of the ball with one eye—either the master eye or the other, it does not matter which. If it were essentially necessary to keep only your master eye on the ball, you should strike it as truly when the other eye is covered. Let any one who doubts what I say tie up his non-master eye and see how he strikes the ball. I maintain that in the usual normal-sighted person you can only get a true appreciation of the distance of the golf ball by using both eyes, and you can only strike it truly when you have a proper appreciation of the length of your club, again by the use of both eyes. These are the two factors necessary for training yourself to be successful in driving. As regards putting, these points come out rather clearly. I understand from those who play that it is correct in putting to keep the eyes fixed on the ball and the whole body stationary, except the arms or wrists, many particular judgements having to be made, and the brain being better able to make them the more simple the process that is involved. Thus in giving the exact force that is needed, as well as the proper direction, the fewer muscles that are employed the easier matter it is for the brain to estimate it, and though not a golfer myself I rather fancy all the strokes in golf, some of them no doubt requiring the most delicate judgement, depend mainly on the subconscious "eye," and it has seemed to me that the wriggling movements some players go through in addressing the ball may tend to prevent the "eye" becoming "stale" as regards aim.

Now, passing on to billiards, "R.A.M.C." goes fatally astray because he points out that the principle of the master eye aligning the cue and ball in the vertical plane of the master eye is the keynote of the principles he advocates throughout his article. Now, if he will watch any billiard player, professional or otherwise, he will be able to observe that nine times out of ten, or nineteen times out of twenty, the player does not align with the master eye or the other, he uses the brain "eye," and the line of vision of this mental eye represents a line drawn at right angles from a point midway between the two eyes, and when I speak of this line

of vision of "eye," this is what I mean. A great deal has been said about whether you should look at the object ball or the cue ball, the actual fact being that, in ordinary strokes, once you have the correct aim, which is, as I have said, a matter of brain judgement, you do not need to look at any spot in particular but take in the table generally. In billiards the use of both eyes is especially important. The game continually involves the estimation of distance and angles, and the stroke has to be made after such estimation, and it would seem an obvious inference that if the estimation of distance and angles required both eyes for such mental process involved, the further delivering of the stroke should be made in the same way. And as a matter of fact that is nearly always the case.

Now, as regards cricket, there are many interesting problems, and they are nearly always matters of brain judgement rather than of visual acuity. I have often tried to get from expert cricketers how soon they form a judgement of what kind of ball they are going to receive. There is no doubt that it takes place very soon after the ball leaves the bowler's hands, of course long before the ball pitches. If this requires proof, the fact that a batsman moves out of his ground to a certain distance to take a ball half volley, shows that before he moves he has estimated where he has to go, and for that purpose he has to make up his mind where the ball is going to pitch. The wicket-keeper's job, too, is a matter that concerns brain judgement. He has the whole thing in train beforehand, so that, although the ball is hit away, his hands close as if upon it at the exact moment and position that he has prepared himself beforehand to receive it. The same sort of judgement is needed by tennis players, and I have often asked them how soon they form a judgement of where the ball is going to pitch and what it is that guides them to the conception. This is a very complicated act, and illustrates the many points that are concerned in making a good player, besides the actual power of getting the ball over the net when it comes within reach. The earliest sign that I have found that anyone recognized is the position of the face of the racquet possibly a moment before the ball is struck. But there are, of course, other things upon which the expert player depends. He places the ball in such a position that his opponent can only return it in a certain direction, and again he relies to a certain extent upon the eyes of his opponent and the position of his head, for a player may often be deceived by his opponent turning his head and looking in one direction while he hits the ball in another direction. I only bring these points forward as illustrating how involved a process it is, and not so simple as the onlooker might think, and that one becomes the best player who has the power of making observations in all these different directions.

Now, returning to cricket, "R.A.M.C." says that the man who makes a catch does so by means of his master eye, and the master eye, his hands, and the ball will all be found in the same vertical plane. It is not much of an argument to say that it is not so; I will merely suggest to any one, if he has any doubt upon the point, to try it, when he will find out the importance of using both eyes. As a matter of fact, the fielder uses the horizontal plane of both eyes to fix the ball and to form a mental judgement of the vertical plane. In other words, he forms his judgement as to how fast the ball is travelling and exactly where it is going to arrive very early in the flight of the ball, and has his hands ready long before the ball has arrived, as in the case of the wicket-keeper.

Let me now speak of the blind spot of cricketers. This is one of the most interesting investigations I have made, and I confess that I was for a long time completely baffled by it. Of course any one with any knowledge of the physiology of the eye will admit that it is ridiculous to suppose that the difficulties depend upon the image of the ball coming upon what is known anatomically as the blind spot. I will not even discuss the question, but if it is not that, what is it? At first I must confess that I was more or less in agreement with "R.A.M.C.," not in that it might be due to the master eye being shut out, as he suggests, by the nose, but because one or other eye might be so shut out, the data for judgement from binocular vision then being destroyed; moreover, the more modern position of facing the bowler and using the horizontal plane of the eyes by the batsman would lend colour to this view. I have conversed with many expert cricketers on this subject, and I will now clear up the point in a way which answers every physiological requirement. The so-called blind spot occurs with a well-pitched ball. And, as I have said just now in speaking of a half-volley, the judgement of where a ball is going to pitch is made very soon after the ball has left the bowler's hand, and, relying upon that judgement, the batsman has prepared himself to deliver his hit, the bat will be uplifted and ready to strike in the position he has estimated that the ball is going to arrive. Now, as regards a well-pitched ball, he has formed the estimation of where the ball is going to pitch, and prepares himself to act upon it. He may play forward to the pitch of the ball or he may play back to it. Now if he plays forward to the pitch of the ball, not having recognized that it has a twist upon it, he may miss it and be bowled. Therefore, if he is in any doubt as to the twist on the ball, he has to cast overboard the judgement he has made of the ball from data soon after it left the bowler's hand and form a new judgement from the pitch of the ball, and there is a moment, when he has given up his old judgement and before he has formed his new one, of mental blindness. That would account for it from the physiological point of view, and all the cricketers to whom I have spoken on this subject have agreed with me that it would answer the description of their blind spot. There is a true moment of mental blindness which would correspond to what the batsman experiences.

There is, however, another kind of blind spot which is due to faulty estimation of where the ball is going to pitch, the batsman strikes at the ball and misses it clean, and, in explanation says it got on his blind spot.

There are two other instances of blind spot occurring in games that I may mention, the one again in cricket, and the other in tennis, and the two conditions are really identical. When a bowler has delivered a ball—it occurs usually in the case of a half-volley—and the batsman strikes the ball directly back to him, there is often a moment of mental blindness during which he does not know where the ball is coming. The explanation of this is that, as I have pointed out, the individual to whom the ball is coming forms very early in its flight a conception of where the ball is coming, he takes subconsciously a point in its flight and relatively to surrounding objects forms his opinion, but if a ball is coming straight back at him, it may seem to be motionless, and his brain does not readily get an impression of its relation to surrounding objects, from which, as a rule, he gets his estimation of its pace and flight.

The second instance is at tennis, when the ball is hit hard and straight back to the opponent. These conditions are the same, and the explanation is the same. The data for forming judgement are insufficient, and the process becomes delayed, and, until a judgement is formed, the individual is mentally blind as to the exact direction of the ball, although he realizes generally that it is coming towards him.

Now, the subject that interests me most of all is that of shooting, and here I am prepared for a large amount of opposition. Gunmakers would join in a howl if they concern themselves at all with my remarks. All this master-eye business is worked to the uttermost, not, I admit, with deliberate intention to deceive, but from incorrect appreciation of the physiology of vision. Just as you estimate the pitch of a ball in cricket, or any of the other instances I have mentioned, so again you should shoot with your brain and not with your eye. I am not, of course, now speaking of rifle shooting. Actually, in shooting, the mind should not be concerned consciously with the position of the gun. The position of the gun should be due to a subconscious effort brought about by training. The same conditions should always be capable of being readily fulfilled, and, to put this concretely, it is above all things essential that a gun should be well fitted and come up easily to the shooting position. It should not catch in the shoulder or press unduly against the chest muscles. It should be able to come up smoothly and evenly and relatively always the same way, and this is the essential point in a good gun. Some cast-off is useful for a purpose that I will mention, but it is from a wrong conception of vision altogether that a gun is cast off enormously, so as to secure alignment with the left eye when it happens to be the master eye. In shooting, as in other things, the process is the result of a mental judge-

ment, and the eyes should not be directly concerned with the gun, but with the object that is being fired at. You require both eyes fixed on the object, in order to judge of its distance, and that is an essential datum for forming a judgement as to the rate at which it is travelling past stationary objects, and the angle the eye has to travel through in following it. Now, if it be granted that the sportsman does not look exactly along the barrel of his gun with his master eye, there must be another requirement, and that is estimation of the angle of deviation of the gun from the line of vision, not of the master eye, but of the two eyes; and, as I explained just now, that is from a point halfway between the two eyes. There is usually a certain amount of lateral or horizontal deviation, because the head cannot be got sufficiently over so as to bring the vertical plane of the line of vision over the vertical plane of the gun. There will also be a certain amount of vertical deviation, and the head is accordingly inclined to the gun to reduce these angles of deviation to the smallest degree, for the smaller the angle of deviation the easier it is to estimate, and a certain amount of cast-off helps this. The same process is gone through with people who shoot rabbits from their hip. They do not try to force their master eye down in a line with the gun. They look at the rabbit with both eyes. They estimate the lateral, if any, and vertical deviation that is required; and this process of rabbit shooting from the hip is not different from shooting from the shoulder, though there is more difficulty in estimating the correct aim. In shooting, then, you require to have a gun well fitted that will always come up to the shoulder true. When you have a gun that will come up readily, and you have trained it to come up true with your mental line of vision, then all you have to do for the purpose of a good shot is to estimate the distance and secondarily the pace of the object and to make due allowance for them. Your gun should subconsciously feel the line of vision and swing slightly in front of the bird as you fire. If you begin to concern yourself greatly about the position of your gun, you begin to poke and miss by shooting behind; poking is produced by trying to make quite sure that your gun is aimed truly and then a brain impulse is sent down to the muscles of the forefinger to pull the trigger—in other words, trying to align with one eye along the barrel, and then when you think you are well on the mark sending a brain impulse down to the muscles of the forefinger to pull the trigger. Now, there is always a latent period before the muscles respond to the brain impulse, and during this latent period the bird or whatever it is at which you are shooting has moved on. I must, however, point out that there are some, and a few who are quite good shots, who do not shoot in the way I have described. They add another estimation to the process, namely, the point in front of a bird that they have to shoot at in order that when the latent period required for pulling the trigger combined with the flight of the bird is allowed for, the bird will arrive at that point at the same moment as the shot. They do not swing on to the bird but fire at a fixed spot in front of the bird. Though, as I have said, some few good shots adopt this method, they must rely upon a human factor that is notoriously variable, and that is the latent period, the latent period being, as I have said, the time the muscles take to act after the impulse has been given to pull the trigger. This latent period has been shown by physiologists to be delayed by alcohol, hastened by tea or coffee, again delayed by fatigue, and this mental process being entirely subconscious, the individual considered cannot allow for the variation. As regards rifle shooting, the matter is different; no immediate judgement is needed for distance, that is estimated beforehand, and allowance for movement is not required to any very great extent; nearly the whole question at the moment of pulling the trigger is one of keeping the aim true—a question of extremely minute detail. Aim like this of such extreme exactitude cannot be estimated by brain judgement or experience, it has to be made anew each time the rifle is aimed, and can only be secured with the exactitude that is required by direct alignment, which can only be done by the use of one eye.

I said at the beginning of the lecture that the eye very largely involved the sense of touch. This is so especially in the case of fencing, where touch is actually of more importance in establishing "eye" than the anatomical eyes themselves. It is generally supposed by those who do not practise the sport that very acute sight is required. So little is this the case that it is by no means difficult to fence with the eyes bandaged, either of one or of both the combatants.

I have briefly skimmed over some of the points in which "eye" is involved in several sports. Of course, I have attempted no more than a sketch, but such as it is I hope you will accept it as a sporting attempt.

THE INFLUENCE OF DIET UPON THE FORMATION AND HEALING OF ACUTE ULCER OF THE STOMACH.*

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THE present research is one of a series which was initiated in order to inquire into the exact part played by the gastric juice in the production and healing of acute gastric ulcer. For many years the hypothesis has been prevalent that the gastric juice plays an important rôle in the pathology of gastric ulcer, mainly because ulcers having the characters of those found in the stomach are almost entirely limited to the parts of the alimentary canal which are directly exposed to the action of the gastric juice. Many experiments indirectly bearing upon this problem have been performed in order to substantiate this hypothesis, but, it must be confessed, without much success. I have no intention in this short communication of discussing the relative merits of these experiments, because I have already referred to most of them in various other papers, and because they have no particular bearing upon the subject of this discourse. In all my experiments acute gastric ulcers have been produced in animals by the injection of gastro-toxic serum, the preparation of which I was able to demonstrate some years ago.[1] By means of this method of producing gastric ulcer I have arrived at the following definite conclusions, which have been already published in various papers:

1. That acute ulcer fails to appear if the gastric juice be put out of action, although the animal may die from the effects of the poison.

2. That the ulceration produced in the presence of hyperacid gastric juice is much more extensive than that produced in a stomach secreting juice of the normal acidity.[2]

3. That the gastric juice is able to attack the gastric cells and produce an ulcer, although the cells are not actually killed by the poison. It is merely necessary to damage the cells to some extent.

4. That hydrochloric acid of the various strengths found in the condition of hyperacidity in the human subject is able to act as a poison for the gastric cells.

5. That acute gastric ulcer heals equally well, whether the gastric juice be increased or diminished in acidity to the extent usually found in man, provided that the stomach empties itself in the normal time.[3]

6. That acute ulcer is more easily produced in the digesting than in the resting stomach, and that in the former case it is much more extensive in character.

7. That undue retention of food in the stomach delays the healing of acute ulcer for at least twice the normal time, because the prolonged action of the gastric juice irritates the base of the ulcer, and may cause necrosis of the granulation tissue in the early stages, and excessive formation of fibrous tissue in the later stages. The growth of the new mucous membrane over the base of the ulcer is thus delayed, and there is produced more inflammatory thickening than usually occurs in the condition of normal healing.[4]

Since motor insufficiency of the stomach prolongs the period of healing of an ulcer, it follows that food which is retained for a considerable time in the stomach, and which excites a copious secretion of gastric juice, should be more

* A paper read before the Pathological Section of the Royal Society of Medicine.

unfavourable to the healing of ulcer than food which leaves the stomach rapidly and excites only a moderate flow of gastric juice.

This is a question of great importance to the clinician, as I think most physicians will agree that rectal feeding is inadvisable in any case in which it can be avoided, so that it is necessary to have the question definitely settled with regard to what diet is the most suitable for a case of gastric ulcer. In all the present experiments cats were used. The ulcer was in each case produced on the anterior wall of the stomach, midway between the cardiac and pyloric orifices, by the local injection of gastro-toxic serum, obtained by immunizing the goat with the gastric cells of the cat, as described in a former paper.[5] The two diets chosen were meat and milk respectively.

After a meal of 100 to 120 grams of meat the cat's stomach is usually not empty till a period of about twelve hours has elapsed, whilst after a meal of 6 oz. of milk it is empty in three hours. The stomach of a 3,000 gram cat will hold, when fully distended, a little over half a pint, but the animal will only drink about 6 oz. at once. There is the mechanical irritation of the meat also to be taken into account, but perhaps this is not of so much importance, because small clots are formed in the milk which will act in a similar manner. It was first demonstrated by Griffini and Vassale[6] that after removal of a portion of mucous membrane by the knife the new mucous membrane was regenerated by proliferation of the glandular epithelium at the edge of the lesion, the cells growing over the raw surface, which they cover in a single layer. The glands are subsequently developed from this single layer of cells.

In my experiments on motor insufficiency I found that the delay in healing occurred in the early stages before the single layer of cells had developed, but that when once the base of the ulcer was covered with epithelium the regeneration of the mucous membrane was chiefly a question of time, but was also to some extent dependent upon the density of the fibrous base of the ulcer. From the clinical point of view, therefore, the important point in promoting the healing of ulcer is to exercise special care in the early stages of the healing, so that the single layer of cells [covers the base of the ulcer as rapidly as possible, and when once that is accomplished, the chief difficulty is over. I have observed the healing of acute ulcer in 26 cats up to the stage at which the base of the ulcer is covered with a single layer of epithelial cells, because for the purposes of my inquiry it was sufficient to observe the healing up to this stage. Thirteen cats were placed on a meat diet, and 13 on milk. The animals were killed at various stages, and the ulcers of 20 of these animals examined microscopically. It was not necessary to examine the remaining 6 with the microscope, because they were in quite an early state and the condition obvious to the naked eye. The exact time of healing of course depends upon the size of the ulcer. The size of the ulcer varies in proportion to the strength of the serum, which in its turn depends upon the stage of immunization to which the goat has reached. In the present instance all the ulcers were produced by injection of the same dose of serum obtained from a goat at the same time, so that all the ulcers were of the same size. The serum, which is injected so as to cause a local oedema of the stomach wall, soaks into the mucous membrane and other tissues. The portion of stomach wall so exposed to the action of the serum is digested by the gastric juice and converted into a slough, which separates, leaving a clean ulcer.

The formation of the ulcer varies according to the condition of the contents of the stomach. When the animal is on a meat diet, so that the walls of the stomach are exposed to the prolonged action of the gastric juice, the slough is rapidly formed, and has separated by the fourth day in most cases, a clean ulcer resulting. In the case of animals fed on milk, however, the period of formation of the ulcer is longer. In two of the cases the sloughs had not separated on the seventh day, and in two other animals, killed on the eighth and eleventh days respectively, a small slough was still adherent to the centre of the base. Out of a large number of animals fed on a meat diet in previous experiments, I have never yet encountered an unseparated slough like this at so late a date. There is no doubt whatever that the condition of the stomach contents exercises a great influence upon both the formation and extension of an ulcer in whatever way it is produced, and we know that in the human being acute ulcer is initiated in several ways, but in all cases by the action of the gastric juice the different lesions are eventually converted into the same kind of ulcer. It is by no means uncommon for a sudden haemorrhage or perforation to occur after a meal, and this is not altogether due to the stretching and movements of the walls of the stomach, but also to digestion by the gastric juice. These experiments support the result which I gave at the beginning of this paper, namely, that an ulcer is produced more easily in the digesting than in the resting stomach. On account of the delay in the separation of the slough on a milk diet, I placed six further animals on meat for the first four days and subsequently on milk, so that the experiments would be more strictly comparable with those in which the animals were fed on meat all the time.

The microscopical examination of a lesion on the third day shows the overlying mucous membrane completely necrosed, the tissue being shrunken and unstained, and at the junction of the dead and living tissue an infiltration with round cells, chiefly leucocytes. The muscularis mucosae has a hyaline appearance and stains badly.

The submucous and muscular coats are thickened, infiltrated with haemorrhages, and contain much necrotic tissue having a hyaline appearance. There is commencing infiltration with cells around the edge which are invading the dead tissue.

After the slough has separated, the base of the ulcer is formed of the remains of the muscular coat or the subperitoneal tissue infiltrated with round cells. Towards the end of the second week the deeper layers of the base have become fibrous and the peritoneum is thickened, the superficial layers being formed of granulation tissue. At the end of the third week the whole base is formed of fibrous tissue in which strands of muscular tissue can be seen. This blends with the muscular and submucous layers at the edges of the ulcer.

Until the epithelium has grown over the base the most superficial layer is formed of more vascular and cellular tissue. This is the invariable course of events in every animal fed on milk, but in those fed on meat the granulation tissue on the surface of the base and extending to various depths is liable to become necrotic. It may be only in a part of its superficial extent or in the whole of it. In this case the growth of the epithelium over the base is completely prevented, and when the whole superficial extent is involved the epithelium has merely commenced to grow at the edge of the ulcer and the whole is completely unhealed at the end of three weeks. The size of such an ulcer is always much smaller than the original ulcer owing to contraction of the fibrous tissue in the base. This necrosis of the granulation tissue of the base of the ulcer occurred in three out of five animals which were fed on meat and which were killed from the fourteenth to the twentieth day. The ulcers of eight animals fed on milk were examined during the same period, and in not a single case was there any sign of such necrosis.

This is the essential difference between the healing in the two cases, the granulation tissue of the base is unable to withstand the prolonged action of the gastric juice and undergoes necrosis, with the result that the healing is delayed and the base of the ulcer becomes more dense from increased formation of fibrous tissue.

I will next consider the regeneration of the mucous membrane. As soon as the edges of the mucous membrane are separated from the slough and all the necrotic portions of glands have been removed by the gastric juice, the cells lining the ducts and bodies of the glands, which are apparent on the raw surface, commence to proliferate and cover this surface with a single layer of, at first flattened, and later cubical, cells.

In this way the edge becomes smooth and rounded. On section this edge is composed of short, irregular glands separated by a considerable cellular stroma, the surface being covered by a layer of cubical cells, which is continued in a single layer on to the surface of the ulcer. Not uncommonly the edge has been inverted by retraction of the muscularis mucosae, and in this case the epithelial cells are compelled to grow round the angle between this inverted edge and the base of the ulcer. This, however, appears to offer little or no obstacle to their growth. By the tenth or eleventh day in the case of milk-fed, and by

the thirteenth and fourteenth in the case of meat-fed animals, the layer of epithelial cells has extended a little way over the base of the ulcer.

On the twentieth day the base of the ulcer was completely covered in four milk-fed animals, and almost completely in three others.

Of the animals fed on meat the layer of cells had only extended a short distance over the base on the fifteenth day, and of three cases examined on the twentieth day one had a large uncovered area in the centre, and in the other two the base was completely uncovered owing to its superficial layers having undergone necrosis. The earliest time at which I have seen primitive glands develop is the tenth to the fifteenth day. They appear at first as little pouches, invaginated, as it were, from the layer of cubical cells.

These results, therefore, confirm those of my experiments dealing with motor insufficiency, and show that the delay in healing in that condition is merely an exaggeration of that which occurs under normal circumstances when a diet is administered which remains for a long period of time in the stomach, the fault being in both cases in the base of the ulcer rather than in the overgrowing epithelium.

The conclusions to be drawn from these experiments are as follows:

1. The theory with regard to the part played by the gastric juice in the production of gastric ulcer receives further confirmation, because ulceration is the more rapidly produced in proportion as the gastric juice is allowed a longer period of contact with the wall of the stomach.

2. The epithelium grows over the base of an ulcer more rapidly when the animal is given a milk diet than when it is given a meat diet. In the case of a milk diet the base of a moderately sized ulcer is usually completely covered by the twentieth day, whilst in the case of a meat diet the same sized ulcer would in most cases be uncovered in the centre at that time.

3. Frequently, in the case of meat-fed animals, the ulcer is completely uncovered on the twentieth day, the granulation tissue of the base of the ulcer having become necrotic. Such an ulcer may be only one-fifth of the size of the original ulcer owing to the contraction of the fibrous tissue in the base, although healing has only commenced at the edge.

4. In the treatment of a case of ulcer of the stomach the following principles should be observed:

(*a*) During the early stages of the healing of acute ulcer the patient should be given a food which does not stay long in the stomach and which does not excite a copious flow of gastric juice.

(*b*) The period of treatment in bed should be at least three weeks.

(*c*) The starvation diet of the older physicians is not necessary, because the general nutrition suffers too much, and because ulcers heal well on some diet such as the above.

(*d*) In the case of acute ulcers which are extending, or chronic ulcers, healing cannot be expected to occur in three weeks, because the ulcer must first be got into a suitable condition for healing, and then, owing to its size and thickness, the healing must take some weeks longer to be completed, so that the treatment in bed is to be conducted like that of simple acute ulcer, but extended over a period at least twice as long.

(*e*) Since in many cases of gastric ulcer there is hyperacidity of the gastric juice, and when the gastric juice is acting destructively hyperacidity increases this destructive tendency, this high degree of acidity should be controlled by the administration of alkali. This is not so necessary in acute ulcer as in the more chronic forms, because the few estimations that have been made of the gastric secretion in acute ulcer show that it is not hyperacid, and I have found experimentally that the effect of acute ulcer is to diminish the secretion in the early stages, and that the latter becomes normal as the ulcer heals.[7]

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THYROID GRAFTING AND THE SURGICAL TREATMENT OF EXOPHTHALMIC GOÎTRE.

BY

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So long as the causation of exophthalmic goître and myxoedema was regarded merely as being an excess or deficiency of thyroid secretion the treatment of these conditions was comparatively simple, being merely the removal of thyroid excess or the making good of thyroid deficiency. But we know now that the matter is of far greater complexity. Not only have the parathyroids to be taken into consideration, but the possibility of abnormal, as well as excessive, thyroid secretion has to be borne in mind. Further, there are the interactions of the various glands with internal secretion to be reckoned with, and the organic changes in nervous and cardiac structures brought on as the result of prolonged functional disturbance. In a severe case of exophthalmic goître we have, therefore, (1) to lessen the thyroid secretion, (2) to counteract the thyroid toxicity, and (3) to add some source of normal secretion. In cretinism and myxoedema the thyroid-therapy has recently been supplemented or replaced by thyroid grafting, and we are indebted to the personal suggestion of Sir Victor Horsley for the idea of applying this procedure to the cure of a severe case of exophthalmic goître:

The patient, F. S., aged 19, had suffered for over twelve months with typical Graves's disease, with protruding eyeballs, goître, dyspnoea, and tachycardia. For this she had been treated by Dr. Michell Clarke by various medicinal remedies, together with the *x* rays, without any amelioration. In September, 1909, we removed the right lobe and isthmus of the gland under novocain (subcutaneous) anaesthesia, with very marked improvement of her symptoms. But this improvement disappeared at the end of ten days, coinciding with the healing of the drainage track, from which a rather profuse discharge had been taking place. By December, 1909, all her previous symptoms except the exophthalmos were as pronounced as ever, the respirations often being over 100 and the pulse 190 per minute. On December 21st, 1909, the greater part of the left lobe was removed, fragments being left at the upper and lower poles. It was hoped that thereby a sufficiency of thyroid, together with the parathyroids, had been retained.

On December 26th, 1909, she developed a very severe attack of typical tetany, which lasted for four days and nearly proved fatal. She was treated by calcium lactate, morphine, saline infusions, and thyroid extract. In spite of continued thyroid medication she had three or four slight attacks of tetany during the next few months, but on the whole her condition was improved. The dyspnoea and accelerated pulse, with orthopnoea, continued, however, and her condition was very far short of cure, the exophthalmos being the only sign which definitely disappeared after the first operation.

From December, 1909, until June, 1910, her face and hands became somewhat puffy, and the menstruation, which had been free, almost ceased. She often suffered during this time from severe headache, which she attributed to the absence of menstrual flow. It was evident, however, that psychical excitement had a good deal to do with her symptoms, because although the respirations were 100–120, and the pulse 100–140 when awake, they were only 16 and 88 respectively when asleep. On June 1st, 1910, we grafted a piece of thyroid from another patient, who had a small adenoma, into her neck. The graft was about 2 cm. × 1 cm. × 1 cm. in size, and we were fortunate enough to identify two well developed parathyroid bodies which were separately implanted. The grafting was performed under novocain anaesthesia into the left side of the neck under the sterno-mastoid muscle. During the same day as the operation nothing special was noted, but much to our astonishment the next day (June 2nd, 1910) she had well marked tetany; that is to say, the hands were clenched in the characteristic attitude, the arms pronated, and the whole trunks and limbs were absolutely rigid. Chvostek's sign was also well marked, the facial muscles contracting when a light tap was made over the seventh cranial nerve.

This condition continued for twelve days, but it was very remarkable that in spite of the extreme tetany, the patient's general condition remained perfectly good, and she slept soundly at night. During sleep the contractions were to a large extent relaxed. These features strongly suggested a functional origin for the condition, and I asked Mr. Green Armytage if he would try the effect of hypnotism upon her. This he kindly did, with the most gratifying results. She readily succumbed to the hypnotic sleep, and the next day she could roll bandages and feed herself. By June 17th she was up and about, and her

general condition had much improved, but Chvostek's sign only disappeared very slowly. During the last six weeks she has been better than at any time for the last two years. The pulse is seldom over 100, and the respirations are 16 to 40. She can lie down in the bed with only a high pillow, which she has never been able to do since her illness began. She had an almost natural though rather scanty menstrual period at the end of June, three weeks after the thyroid grafting, and the neck became slightly swollen over the graft at that time. On July 18th the skin over the graft became inflamed and painful, and after fomentation the wound opened and discharged a small quantity of thick fluid with a catgut suture, after which it healed up.

Of course it still remains to be seen whether the amelioration of her condition will be a permanent one.

In view of the comparative novelty of this treatment by thyroid grafting it has appeared to us that this case is worthy of record, and we may now proceed shortly to review the work that has been done on this subject, the clinical part of which has been chiefly connected with the treatment of cretinism and myxoedema.

The application to practical therapeutics by Murray of Horsley's experimental work on the thyroid has made it possible to extirpate the whole thyroid for malignant disease or exophthalmic goitre, and to treat cretinism and myxoedema on rational lines. The results of this form of treatment, whether by extracts of the dried gland or by preparations of the active principle (iodothym), have not been, however, uniformly satisfactory.

There are cases after removal of the whole thyroid in which the individual fails to respond to thyroid medication in any of its forms, or in which toxic symptoms are produced by very small doses. Cases of myxoedema occur in which doses sufficient to maintain mental vigour produce tachycardia, and one or two deaths have been recorded as a result. Add to these objections the difficulty of persuading certain patients to take thyroid preparations regularly or continuously, the necessity for varying the dose in proportion to the amount of bodily exercise, and the inconvenience and expense to the patient of this mode of treating thyroid inadequacy, it is not surprising that efforts are being made to solve the problem by thyroid grafting.

In this paper we wish to lay stress on the methods and results of thyroid transplantation in man, referring only incidentally to the experiments on animals in so far as they bear on the main part of our subject.

It has been fully established that heteroplastic transplantations—that is, the grafting of thyroid from one animal into an animal not closely related to it zoologically—is futile, for, even though vascular connexions be established, the secretory portion of the graft is rapidly destroyed by the cytolysins of the host.

The retention of vitality in an implanted piece of thyroid tissue depends on several factors. Given that a perfect technique has been achieved there are still certain vital factors to consider. Sufficient nutrition for the new tissue is furnished partly from the fluids in the piece of tissue itself, partly from the lymph surrounding it, but the final source must be the blood vessels which grow into it from the surrounding tissue. In a successful case these blood vessels can be found growing into the graft within three or four days. Even after this there is still a danger that the autolysins in the graft and the cytolysins of the host will destroy the secretory cells, though this must be rare in homoplastic transplants.

The experimental work of von Eiselsberg,[1] Cristiani,[2 3 4] and others has established that thyroid grafts in animals "take" and that they functionate. These results cannot be said to have been completely transferable to the procedure in man, and it has been denied by some operators that human grafts "take" at all, it being held that they are rapidly absorbed. Others, while admitting the feasibility of thyroid grafting, argue that sufficient tissue cannot be transplanted for full functional purposes having regard to the varying requirements of the individual in exercise, child-bearing, etc. The latter objection is borne out to a certain extent by some of the cases mentioned below, for in nearly all some thyroid had to be taken by the mouth even after an apparently successful graft, the dose necessary being considerably less than before the operation.

Other important questions to be settled are the selection of the best technique, the best locality for placing the grafts, and the source of the thyroid for grafting purposes. When possible, a piece of healthy thyroid, taken from a self-sacrificing relative, is, of course, best; but, failing that, the healthy tissue of a lobe removed for localized adenoma will serve. This is recommended by Horsley (discussion on the surgery of the thyroid, British Medical Association, Bath and Bristol Division, March, 1910), and was actually used in our case.

Finally, we have to inquire whether the reported improvement in the condition of patients after thyroid grafting is maintained throughout life.

Lannelongue,[18] in 1890, performed heteroplastic transplantation of a sheep's thyroid into a patient without success—a result to be expected on *a priori* grounds. Kocher[19] reports several favourable cases of transplantations of pieces of thyroid into the tibia. He holds that the requirements for success are fresh pieces of healthy gland and a highly vascular bed for them to be placed in. He prefers the tibial marrow cavity to the spleen on account of the greater ease and safety of the operation and the equally vascular site. The cases are not quoted very fully, and it appears unlikely that the results were in any sense perfect. The disadvantage of a very vascular site is that unless complete haemostasis is secured the graft is surrounded by an envelope of clotted blood offering a barrier to rapid vascularization of the grafts. Kocher secures haemostasis by operating in two stages. Several others have adopted Kocher's method with slight modifications in technique.

Chava Sermann[20] experimented on dogs under Kocher's direction, but in two cases only out of eight did the engrafted tissue functionate and show healthy glandular tissue on microscopical examination. A rubber ball was placed for ten days in the marrow cavity to prepare a bed for the grafts in these two cases.

Müller of Rostock, in the discussion of Kocher's paper, reported two cases of cretinism with marked intellectual improvement following transplantation of thyroid tissue into the tibia, and von Eiselsberg had two similar cases.

Garré[21] of Bonn at the same time mentioned a case of chronic tetany after thyroidectomy in which he grafted a parathyroid removed from a case of Graves's disease into the tibia, with marked improvement. He, however, expressed a preference on theoretical grounds for transplantation of an entire organ or lobe with vascular suture.

Cristiani,[2 3 4 5 6 7] to whom we are indebted for the bulk of the work, both experimental and clinical, on thyroid grafting, points out that thyroid grafts "take" better in thyroidectomized animals than in those not so treated. From his researches he has arrived at the following conclusions relating to technique: He uses small fragments of thyroid tissue the size of a wheat grain, and places each by a separate small stab wound in the subcutaneous tissue of the neck and shoulder regions. He emphasizes the necessity for absolute asepsis; no antiseptics must be used for either the graft or the implantation wound. Rapidity of execution he considers very important, as he finds small pieces of thyroid die if exposed to the air for two minutes. The best results were obtained when the grafts were kept warm in a strictly isotonic solution, preferably Locke's or Ringer's; isotonic salt solution is far less satisfactory. Grafts can be kept in human blood serum for an hour without suffering appreciably.

Cristiani (loc. cit.) has shown that, by using very small pieces of thyroid tissue, the area of central necrosis found even in satisfactory grafts is relatively small, and Carrel,[8] by further diminishing the size of the pieces, obviated necrosis altogether. Cristiani and Charrin,[9] using the technique described above, operated on a patient, aged 14, with predominant symptoms of myxoedema and some of those of Graves's disease. When 17 years old total extirpation of the thyroid was performed by another surgeon in two stages. After the operation the symptoms of myxoedema were aggravated, and required the exhibition of a daily dose of thyroid equal to one or one and a half grams of the fresh gland. Even a slight diminution of the dose caused a relapse, and if she indulged in sport she had pain in the lower limbs and other symptoms of thyroid inadequacy.

On two occasions, at three months' interval, they grafted thirty-eight pieces of thyroid tissue into the subcutaneous tissue. Slight but transitory symptoms of thyroidism followed, but she could soon reduce the dose of thyroid by the mouth very considerably. Six months after the second graft she became pregnant, and was

delivered of a normal child in due course. An interesting feature of the case was the increase in size of the grafts during the pregnancy and their recession after delivery (Cristiani and Kummer[10]).

Gauthier and Kummer[11] agree as to the necessity for keeping the graft warm, and for rapid working. They adopted Cristiani's method of multiple subcutaneous grafts. One patient was a nearly idiotic girl of 3, unable to speak, uttering meaningless cries, and with constant rotatory movements of the head and hands. She was not myxoedematous, and thyroid medication had failed. Within one month of the grafting she walked, and showed signs of great improvement in intelligence; this improvement has been maintained one year at the time the paper was written.

Carraro[12] experimented with thyroid grafts, and made observations from the second to the thirtieth day. He obtained the best results with thin discs of thyroid gland implanted in the subcutaneous tissue. One side of the transplanted piece must be still covered with some of the connective tissue capsule of the gland to ensure its vitality.

Salzer[13] experimented on rabbits because of the ease of removal of the thyroid, there being only one thyroid artery, and the parathyroids are easily distinguished and avoided. He confirmed Cristiani's conclusion that thyroid grafts "take" better in thyroidectomized than in normal animals. He selected the properitoneal tissue of the anterior abdominal wall, and found that in a short time the following zones are distinguishable in a grafted piece of tissue:

1. An outer zone of well-nourished normal follicles.
2. A zone of tubular epithelial glands which probably afterwards become regenerated into normal follicles.
3. A zone of granulation tissue.
4. A central area of necrotic tissue.

At a later stage, all traces both of granulation tissue and necrotic areas have disappeared, and except for a central knot of connective tissue the whole mass consists of colloid containing follicles. As a result of these experiments, he considers that in thyroidectomized animals the grafts came to their full function in five to seven weeks.

Bircher[14] refers to Wilson's statement that implantation in the neck gives better physiological results than other methods. He is very sceptical as to any permanent good results from thyroid grafting, and refers to three cases in his own practice to bear out this.

Case I was a typical cretin 11 years old. In May, 1908, Bircher implanted three pieces of healthy thyroid, 2, 4, and 10 mm. in diameter, from a woman 26 years of age, into the subcutaneous tissue of the occipital region. After a short improvement there was in August of the same year a relapse into the former state. In the same month he implanted five pieces from a girl of 19, which similarly failed. In September he excised the grafts and found on histological examination that no normal thyroid tissue was left; necrosis, connective tissue, and capillaries had replaced the whole.

Cases II and III, both aged 23, showed similarly negative results.

Payr[15 16] of Griefswald, in the discussion on Kocher's paper, referred to a case of transplantation into the spleen two years before. The case had been a very unfavourable one, in which Payr had transplanted a large piece of maternal gland into the spleen. The child for three years previously had been treated internally with various thyroid preparations, with but little success. After the grafting the intellectual and somatic conditions during the first month and up to the end of the first year improved rapidly; after that the improvement was slower.

With regard to the intellectual state, the child had been entirely imbecile and did not react to sensory impressions. All these symptoms were much ameliorated, and growth and increase of weight were very evident. Towards the end of the second year the progress was less evident and the child became anaemic, developed general glandular enlargement, including the spleen, and became very liable to catarrhal conditions. The weight was the average for a child of her age; dentition, nails, and hair were normal; and the skin showed no evidence of the former myxoedema. The posture and carriage of the child were not absolutely straight, and the gait became spastic. Payr refers to the work of Scholz and Zinguli, who demonstrated important changes in the central nervous system, especially the cerebrum in cretinism, and on this bases his belief that these organic cerebral defects cannot be improved by thyroid grafting. Finally, he maintains his preference for the spleen as a site for the graft.

Czerny, at the German Surgical Congress in 1906, spoke of a case of tetany after complete thyroidectomy for cancer in which immediate relief was afforded by grafting a piece of fresh gland into the spleen. On autopsy at the sixth day the thyroid was found perfectly healed into the splenic tissue.

Bramann[17] reports 3 cases of myxoedema and cretinism where transplantation was done with marked bodily and intellectual improvement. The recent great advances in vascular surgery have made it possible to transplant whole lobes or glands with preservation of circulation through them. Stich and Makkas,[22] using the so-called "patching" method of vascular suture, removed half the thyroid from dogs with the superior artery and vein and a piece of the carotid and jugular stems attached. The half gland was then sewn into the neck muscles of thyroidectomized dogs, the vessels being sutured to the corresponding artery and vein. In 10 cases the functions were fully carried out by the transplanted glands. In 3 cases the gland was reimplanted into the same animal from which it had been removed, and in the remaining 7 into other animals. Autopsies were made from 51 to 245 days, and the circulation found good in all, though in the central parts there were usually necrotic patches.

Carrol and Guthrie[23] similarly extirpated the thyroid of a dog and replaced it in his neck. The vessels were anastomosed and the circulation re-established about half an hour after the extirpation. The gland was observed from time to time by opening up the wound, and it was found to remain quite normal. The case we have reported illustrates very well the complexity of the various factors concerned in exophthalmic goitre. The following are its features of special interest:

1. The temporary improvement following partial thyroidectomy, which lasted only as long as the wound discharged.
2. The occurrence of tetany after subtotal thyroidectomy in which the parathyroids had apparently been preserved.
3. The cure of this tetany by thyroid medication.
4. The persistence of dyspnoea and tachycardia in spite of subtotal thyroidectomy.
5. The occurrence of tetany of a functional type after thyroid grafting.
6. The cure of this form of tetany by hypnotic suggestion.
7. The great amelioration of the symptoms by thyroid grafting.
8. The occurrence of menstruation and coincident swelling of the grafts after thyroid transplantation.

It is obvious both from a consideration of our case, together with the review of the literature of the subject, that the value of thyroid grafting is by no means settled, but enough has been said to encourage further work in this direction. It seems fairly certain that grafting can be successfully undertaken as far as the immediate vitality of the grafts is concerned. Further, that in recent cases of thyroid inadequacy, a good functional result will accrue from this method. But time only can show what are the permanent results of this method.

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COMMON CAUSES OF DISCHARGE FROM THE EARS, AND ITS TREATMENT.*

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DISCHARGE from the ears is a subject of considerable importance, particularly now, when the inspection of school children is rigorously carried out, and hundreds of children suffering from otorrhoea are to be treated. A complete list of causes of aural discharge I shall not attempt, but intend only to deal with those that may be met with daily.

Cases of discharge from the ears may be simply divided into two classes: (1) *Non-purulent;* (2) *Purulent.* Of these the former is small compared to the latter, and will be briefly dealt with first.

1. *Non-purulent.*

Discharge may come from the pinna, the meatus, the middle ear, or the cranium.

(*a*) The *pinna.* A common condition met with here is an eczema, seen often in children and often passing to an impetigo; it is either a primary infection or secondary to a suppurative discharge from the middle ear. This condition is best treated by the daily application of a 5 per cent. solution of silver nitrate combined with some ointment for home use—either boracic or yellow oxide of mercury; under this it is remarkable how quickly improvement follows.

(*b*) The *meatus. Wax* is a common cause of discharge, especially when it has been present some time. Removal by syringing is the obvious treatment. Should difficulty be experienced in this removal, a few drops of hydrogen peroxide, 5 or 10 volumes per cent., will facilitate matters.

Meatitis.—There are many causes of meatitis, but the commonest are an eczema and suppuration of the middle ear. An eczema may be localized to the ear, or may be part of a general eczema. It gives rise to a scaling of the meatal wall and a thin serous discharge. In many cases this discharge does not come out from the ear, but forms a collection of débris, consisting mainly of desquamated epithelium, in the deep parts of the meatus, very irritating, and causing deafness. This collection of débris often occurs in the groove formed by the floor of the meatus and the anterior inferior part of the membrane, which meet at an acute angle. Painting the meatus with the 5 per cent. solution of silver nitrate two or three times a week gives good results. In the cases where the débris collects, this must be carefully and thoroughly removed with the aid of a fine probe armed with small pieces of cotton-wool. It may be a tedious performance but the results are most gratifying, and well repay the time spent. For the patient's own use, a few drops of the following, used every night, will be found most useful in allaying irritation and preventing the scaling:

℞ Ung. hydr. nitr. dil.... ... ... ʒj
Ol. amygdalae ... ... ad ʒj.

Should this not be satisfactory, perhaps ung. picis carbonis will sometimes prove useful. Meatitis in adults and children often causes great narrowing of the meatus, making a view of the membrane very hard or, indeed, impossible to obtain. Very frequently this marked narrowing without any obvious otorrhoea is due to a perforation in Shrapnell's membrane. In these cases as well as painting with silver nitrate, packing the meatus lightly with strips of gauze will soon cause dilatation. This should be done every day until finally a good view is obtained of the Shrapnell membrane fistula, which can then be treated.

Blood from the meatus is unusual and perhaps should not be included in my list, but the condition is so interesting that I include it. It is the result of self-inflicted injuries, and is seen, as a rule, in girls of a neurotic disposition. The following case is an example:

A girl of 17 had suffered from almost daily haemorrhage from the ears for nine months. For six of these months she also had frequent epistaxis. Her medical man had her under constant observation, suspecting self-inflicted injuries, but never was able to detect her. She was a healthy-looking girl—described as a tomboy when at school—but her look was somewhat furtive. Examination of the ears revealed nothing abnormal and she heard perfectly; in the nose were seen scabs on either side of the septum. She was put under observation, and during the first two days her ears bled twice, on both occasions while the nurse was absent from the room. One ear was then covered with wool and gauze and sealed with collodion; she bled from the opposite ear; this was then covered in a similar way and no bleeding occurred at all. Her mother was told, and some weeks after sent the report that the attacks of bleeding had practically stopped and the girl was much better and brighter.

(*c*) *Middle Ear.*—Discharge of blood occurs as a result of rupture of the tympanic membrane; the tear is usually found in the posterior part of the membrane, and follows a blow on the ear or a severe fall on the head, or, as I saw recently, a dive from a height, coming down with the side of the head on the water. The treatment must be directed towards keeping the meatus aseptic, not by syringing, but by the insertion of a strip of antiseptic gauze, or perhaps by a plug of aseptic wool.

(*d*) *Cranium.*—In fracture of the base of the skull across the middle fossa discharge of blood and cerebro-spinal fluid occurs through the almost invariably accompanying rupture of the tympanic membrane. Treatment here must, as far as the ears are concerned, be as for the cases of ruptured membrane—aseptic wool plugs in the ears.

2. *Purulent.*

The discharge may come from the pinna, the meatus, or the middle ear, the last being the most frequent source.

The Pinna.—The eczema previously mentioned often becomes impetiginous, and the treatment is on similar lines—silver nitrate applications and yellow oxide of mercury.

The Meatus.—Sometimes boils give rise to a discharge from the ear when the opening in the boil is small; the treatment consists in laying the boil freely open and packing with gauze.

The Middle Ear.—In the vast majority of discharging ears the middle ear is the cause. Why is this so? Here is a temporal bone cut across in such a way as to show the middle-ear cleft; and it shows very well the direct connexion between the Eustachian tube, the tympanum, and the mastoid antrum, and makes clear the ease with which infection can occur in the tympanum from the Eustachian tube.

Infection of the middle ear always, or almost always, takes place per the Eustachian tube; it is only very rarely that infection passes in from the meatus, and only in a very few cases does infection arise by the blood stream. The infection by the Eustachian tube from the naso-pharynx takes place more easily if there is any obstruction in the tube, and obstruction can easily occur by congestion of the mucous membrane, infection itself following on any inflammation about the pharynx—for example, a tonsillitis, a pharyngitis, or a naso-pharyngitis.

In children adenoids account for the greatest number of discharging ears, since infection follows from the frequent attacks of tonsillitis or pharyngitis consequent on the mouth breathing. The treatment is clear: Remove the adenoids and restore nasal breathing, not by any means an easy task in many cases, but one of great importance. Previous to removal of adenoids the patient should be made to do nasal breathing exercises for one to two weeks, unless the case is one where the patient cannot breathe at all through the nose; after removal of the adenoids the exercises are continued, and a course of arsenic and iron prescribed. It must be insisted upon that the presence of any ear symptoms, not necessarily otorrhoea, but deafness or occasional pain in the ears, gives *the* indication for removal of adenoids, since prevention is far better than cure.

Any other cause of nasal obstruction leading to mouth breathing may be a cause of inflammation of the ear, and so of an otorrhoea—for example, chronic nasal catarrh, hypertrophied anterior or posterior ends of the inferior turbinals, deflected septum, or the remnants of adenoids, which may persist till 25 or 30 years of age. Should any

* Read before the Lambeth Division of the British Medical Association

of these defects be present in a case of otorrhœa, they must be remedied before local ear treatment can be expected to give good results.

Apart from these causes, there is an important group of diseases which cause otitis media—specific fevers, scarlet fever, diphtheria, measles, whooping-cough, influenza, and pneumonia. The severity of the resulting otitis varies with the infecting organism, scarlet fever and diphtheria, and perhaps influenza, giving rise to the worst forms.

The inflammation in the middle ear is in the first case *acute*, the discharge from the ear being preceded by great pain for one or two days. If untreated, these cases, after a few days, may subside and the discharge cease, or they pass over into a condition of chronic otorrhœa.

The treatment in these acute cases is to encourage free drainage; should the perforation in the membrane be very small, it is best enlarged, or a fresh incision made in the posterior inferior part of the membrane; clean with hydrogen peroxide, and put in a strip of gauze, and change each day till healing occurs. Should the pus be very thick, it may be sucked out with a Siegle's speculum. It is not good to syringe, because considerable pain may be caused by the impact of the fluid on the inflamed membrane.

When treated thus many acute cases subside, but unfortunately many cases are allowed to have their acute attacks without the medical man being called in, and so drift into the next group, those suffering from *chronic otitis media*. We will suppose that all the possible nasal and naso-pharyngeal defects have been remedied, and still the discharge continues; let us inquire why this should be so.

Here are specimens of temporal bones cut across in various directions to show the tympanum and its surroundings; it will be seen at once that the tympanum is far from being one simple space bounded externally by the tympanic membrane; here is (1) the attic, the space above the main tympanum, and containing the largest parts of the malleus and incus; (2) the antrum, leading back into the substance of the mastoid process, and having its opening into the tympanum considerably above its floor; (3) the hypotympanum, a small gutter-like part on the floor of the tympanum; (4) the niche leading to the round window; (5) air cells around the Eustachian tube. After seeing the complicated structure of the middle ear one can easily understand why disease once started should continue in spite of apparently free drainage, such as is obtained by a large perforation through the membrane; and when this perforation is small or is in Shrapnell's membrane the reason for continuance of the disease is clearer still.

The treatment of suppurative otitis media must vary to some extent with the character of the discharge, but in all cases the following is to be recommended in the first instance. The ear is mopped out as clean as possible with wool on a probe; and then a strip of iodoform gauze half an inch broad and about two and a half or three inches long is introduced down to the perforation. When possible this process is repeated daily or on alternate days; in cases where the patients can only be seen once or twice a week, hydrogen peroxide drops are to be used twice a day by the patient after removal of the gauze, which should take place twenty-four hours after its introduction. In many cases under this treatment the discharge diminishes or stops altogether; when it has become very slight, a powder of boracic and iodoform 4 : 1 blown in is useful in accelerating the healing. Syringing as practised at home, particularly among poor patients, is of very doubtful value; not only does the lotion fail to wash away the pus, but there are drawbacks to its use; some patients become very giddy and some experience pain.

When the local treatment just described fails and the otorrhœa continues, more must be done; perhaps there may be found polypi or granulations on the membrane; in the former case the polypi should be removed with the snare and gauze treatment continued, and in the case of granulations trichloracetic acid should be painted on to cauterize them, and again gauze treatment continued. If after these simple measures have been adopted no improvement follows after three weeks' continuous treatment, the probability is that some operative treatment must be undertaken—either permeatal removal of ossicles and outer attic wall, or the radical mastoid operation.

Should the discharge contain cholesterin crystals—indicative of cholesteatoma—no time should be spent in permeatal treatment, but the radical operation performed, since the presence of cholesteatoma makes the prognosis as to the course of the disease gloomy, many serious complications—intracranial abscess, sinus thrombosis, and the like—often being due to cholesteatoma.

There are many indications for operative interference in chronic otitis media—acute inflammations of the mastoid process, lateral sinus thrombosis, cerebral abscess, and so on—but here I wish only to mention two conditions which call for operation: facial paralysis and evidence of labyrinth infection.

In the specimens passed round, the position of the facial canal is seen from various aspects, and it will be noted how very close is the relation of the nerve to the tympanum, the bony wall of the Fallopian aqueduct being always very thin, and in some cases actually deficient; it is, therefore, easy to see how the facial nerve may be pressed upon by granulations in the tympanum, or by an exudation into its canal. Those cases of facial paralysis due to pressure are often relieved by the radical mastoid operation.

Again, in the specimens there is to be seen a white ridge of bone at the inner part of the entrance to the antrum from the tympanum; this ridge is due to the bulge of the external semicircular canal. In some cases of chronic otitis media the disease attacks the external semicircular canal, and produces erosion of the white ridge of bone; should the inflammation spread, this erosion of the bony canal may be followed by inflammation in the membranous canal lying inside; when this is so, even in very early stages, attacks of vertigo are experienced by the patient; as a sign of this vertigo nystagmus of a rotatory character is noticed, and some signs of disturbance of equilibrium may be detected. Should a patient show constant and definite signs of this labyrinth "irritation"—it may not be worthy the name of a labyrinthitis—a radical operation should be performed. In several such cases one has found that these symptoms previously present disappeared after the radical operation, and at operation a small erosion was seen on the external bony canal.

A last cause of discharge from the ear I wish to mention—that is, tubercle of the middle ear. Lately it has been said that tubercle is a common cause of otitis media among children, especially quite young children. There are three characteristic features of a tuberculous otitis: the perforation of the membrane is not preceded by pain, the discharge is inclined to be thin and watery, and the membrane is frequently perforated in two or more places. The glands about the ears are often enlarged, and facial paralysis is apt to develop early. The treatment should be gauze strips and hydrogen peroxide as before; the radical operation should only be advised in patients who are healthy, and in whom is found no other focus of tubercle. If patients are losing weight, do not operate, as the wound may not heal. Naturally, should acute complications arise in the course of a tuberculous otitis, operation must be resorted to to save life.

THERE are at present seven medical members of the Hungarian Chamber of Deputies.

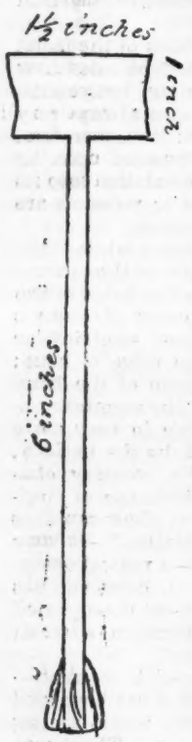
WE regret to observe that Livingstone College for Missionaries has ended up its year with a debit balance of £246. Its financial position, which so far as capital funds are concerned is sound, would soon become quite satisfactory, however, if missionary authorities adequately recognized their duty in the matter and sent more students. If it is impossible to post a qualified medical man at every missionary station in the tropics, the laymen dispatched to work there should receive sufficient instruction in medicine and surgery to enable them to guard themselves and their native assistants against the commoner dangers of life in such localities. To send out men trained in theology, but with less knowledge of hygiene than that possessed by an average board school teacher, is quite wrong. There is some probability of reform, since the question was considered last summer at the World's Missionary Conference in Edinburgh. The report of its transactions contains a chapter devoted to it, and Livingstone College is one of the two institutions mentioned as desirable training schools; the other is at Tübingen. The medical delegates at the conference also dealt with the matter, passing a series of definite resolutions in support of the same thesis.

Memoranda:

MEDICAL, SURGICAL, OBSTETRICAL.

HYSTERECTOMY FOR CANCER OF THE UTERUS OR CERVIX: A SUGGESTION.

To render the division of the vaginal walls more easy and rapid I have had an instrument made locally which acts very satisfactorily. It is practically a vaginal "director," and consists of a straight handle which carries at one end a flat plate 1½ in. wide and 1 in. in length.



Vaginal "director."

This plate is slightly curved like a duckbill. Before opening the abdomen the operator pushes the plate into the anterior fornix, and leaves the instrument lying there.

As soon as the uterine arteries are ligated the instrument is pushed upwards by the nurse and defines sharply the anterior wall of the vagina. Upon this support the wall can be divided by knife or thermocautery without the least trouble. When the anterior wall is divided the instrument is passed into the posterior fornix, and the uterus being pulled forward, the posterior wall is seen very well defined, and division is easy.

A second suggestion I would like to make is the treatment of a diseased cervix.

To avoid any infection of the abdominal cavity it has hitherto been imperative that the ulcerated surface should be scraped or cauterized.

A method I think much simpler is as follows: A volsella is clamped upon the cervix before the abdomen is opened. The instrument described above is pushed into the anterior fornix. The abdomen is then opened and the usual steps of a hysterectomy performed. When the uterine arteries are ligated the uterus is amputated above the cervix, care being taken to protect the surrounding parts with sponges. The walls of the vagina are then divided upon the little instrument I have described, and the cervix is withdrawn per vaginam by traction on the volsella. By this procedure no infection of the abdominal cavity can occur.

I am not aware if I am suggesting any procedure already adopted, but I think the above will perhaps be of value to operators, like myself, who have not unlimited assistance at hand.

P. CLENNELL FENWICK, M.D., F.R.C.S.E.,
Honorary Surgeon to Christchurch Hospital, New Zealand.

TWO CASES OF ACUTE TETANUS TREATED BY ANTITETANIC SERUM: RECOVERY.

A. M., aged 38, female farm servant, was placed under my care in the Western Infirmary by Dr. Love, of Cumbernauld, on November 13th, 1908.

Ten days before admission, while driving a horse at the mill, her right foot was caught in the wheel and badly lacerated. On examination I found the right foot had a large lacerated wound over the dorsum and another across the sole, extending upwards on the outer aspect of the foot and leg. She complained of stiffness in her jaw, the following day she complained of stiffness in her back, and in the afternoon she had a distinct attack of opisthotonos. The discharge from the wound was examined by Professor Muir, who found the bacillus. Antitetanic serum was injected once in the twelve hours, but no improvement took place in two days, and, after consultation with Professor Muir, I used Parke Davis's serum, which rapidly produced a marked improvement, and she gradually recovered.

H. S., aged 5, was admitted on March 10th, 1909, with a history that three weeks previously she had the ring and little fingers of the left hand injured with a reaping machine. Half of the little finger had been amputated. Four days before arriving at the infirmary she developed symptoms of tetanus. On examination the stump of the ring finger was found to be in an unhealthy condition, and it was therefore amputated. Opisthotonos and trismus were well marked in her case also. Parke Davis's serum was used, as in the case above, and the patient's recovery was quite satisfactory.

REMARKS.—Cases of tetanus are so frequently fatal that it seems right to record the above two in which recovery took place. In lacerated wounds it is important to have any discharge examined, in order that, if the tetanus bacillus is found, doses of serum ought to be given; indeed, in every lacerated wound where healing is not progressing favourably a prophylactic dose of serum ought to be administered, as the bacilli might be absorbed before they could be discovered in the discharge.

J. CRAWFORD RENTON, M.D.
Surgeon and Lecturer on Clinical Surgery, Western Infirmary, Glasgow.
Glasgow.

DYSTOCIA DUE TO VENTRIFIXATION OF UTERUS TREATED BY CAESAREAN SECTION.

ON August 17th, 1910, at 2 a.m., I was sent for to assist Dr. J. C. Galloway at a difficult case of labour. The patient is the wife of a farm labourer resident some two and a half miles from Banff. She is 27 years of age, and her obstetrical history is as follows:

Her first three pregnancies were in rapid succession, were quite normal, and three living children were delivered without any interference whatsoever. In October, 1907, she aborted at the third month, and after that she had a certain amount of prolapsus uteri, in connexion with which she consulted Dr. Galloway. Dr. Galloway advised her to go into Aberdeen Infirmary, where ventrisuspension was advised and performed by Mr. Marnoch on August 1st, 1908. The patient came home after this operation on August 22nd, and had one menstrual period after her return, when she again became pregnant. In May, 1909, she gave birth to a very small premature child, which was stillborn, and was born before Dr. Galloway arrived. She informed me that it came "feet first." During the pregnancy which resulted in her most recent labour "she did not feel at all like she had done in previous pregnancies," but did not consult Dr. Galloway until she had to send for him on June 12th for sudden haemorrhage, which came on while she was lying in bed at midnight. This haemorrhage was very severe, but stopped soon after Dr. Galloway's arrival, without any treatment, and is explained by the fact that at the subsequent Caesarean section the placenta was found to be lying well down in the lower uterine segment. She stayed in bed till June 16th, and was then able to do light housework till August 16th, when she fell into labour about 11 a.m. She did not send for Dr. Galloway till about 10 p.m., and on his arrival he found on examination a transverse position, the membranes intact, the os very high up and dilated sufficiently to admit two fingers. He attempted version, and, the membranes rupturing, the liquor amnii drained away. He got hold of the left foot, but could not get the child turned round at all, the head lying persistently in the left iliac fossa. He sent into town at 2 a.m. and I went out. I gave the patient chloroform, and he again endeavoured to turn, without avail. He then asked me to attempt to deliver, which I did, he giving the anaesthetic. I found the uterus very much thinned out and firmly adherent to the abdominal wall, in the line of the ventrisuspension scar. The os was well dilated and the cord prolapsing and pulsating strongly. I worked away for a long time, but could not get the child delivered.

After talking over the case, Dr. Galloway and I agreed that to persist in attempting the delivery by version or even by embryotomy would probably lead to rupture of the uterus. Her pulse was now very weak and running at 130 per minute. We accordingly decided that Caesarean section was the safest course to adopt, and the house

being merely a labourer's cottage, we arranged to remove her immediately to Chalmers Hospital, some two and a half miles distant. She stood the drive into hospital fairly well, arriving shortly after 6 a.m. On admission her temperature was 100° F., her pulse 140, and very weak. Before putting her on the table she was given $\frac{1}{30}$ gr. strychnine and $\frac{1}{100}$ gr. digitalin hypodermically and a rectal saline with brandy. With Dr. J. H. Stephen giving chloroform and Dr. J. Anderson assisting me I opened the abdomen; the uterus was found fixed to the abdominal wall by a strong fibrous band not more than 1 in. in length, about $\frac{1}{4}$ in. thick and 1 in. broad, about $1\frac{1}{2}$ in. to 2 in. above the pubes. The uterine wall above the adhesion was very much thinned out and followed every contour of the fetus, but below the adhesion it was much thicker. On opening the uterus there was a good deal of haemorrhage, which was soon checked by very hot saline after the removal of the child and placenta. The child was quite full time, weighed fully 8 lb., but unfortunately could not be revived. Owing to the woman's exhausted condition I decided to leave the uterus, but ligatured and cut both Fallopian tubes and finished the operation as quickly as possible, suturing in the usual manner.

An intramuscular injection of Parke Davis's aseptic ergot was given and repeated every four hours for four doses. Rectal salines with brandy were given frequently. Four hours after operation $\frac{1}{4}$ grain of morphine was given hypodermically, which effectually stopped the sickness which was very severe.

The temperature remained at 100° F. for eight hours and then fell below normal and remained there and the pulse-rate gradually diminished in frequency. Involution followed a normal course and the lochia remained quite pure, in fact the patient made an uninterrupted recovery. I have reported this case at length for several reasons: First, because I have never heard or read of such a troublesome case following ventrisuspension; secondly, that I have never heard of Caesarean section recommended should such a case occur; thirdly, because of the remarkably good recovery made by this patient from Caesarean section, performed as it was at 7 a.m., some twenty hours after the outset of labour, and even then after considerable vaginal manipulations, which says a great deal for the aseptic precautions taken by the medical attendant, Dr. Galloway. I would like to take this opportunity of recording my thanks to Dr. Stephen for his administration of the anaesthetic to such a bad case, and to Dr. Anderson for his very able assistance at the operation.

W. MANSON FERGUSSON, M.B., Ch.B.,
L.M.Rotunda;
Assistant Surgeon, Chalmers Hospital, Banff, N.B.

Reports of Societies.

THE ROYAL SOCIETY.

Thursday, December 8th, 1910.

Mr. A. B. KEMPE (Treasurer and Vice-President) in the Chair.

The Trichromatic Theory of Colour Vision.

SIR W. DE W. ABNEY, continuing his papers on colour blindness and the trichromatic theory of colour vision, made a contribution on incomplete red or green blindness. In Part I he had treated of complete colour blindness, and in this paper of incomplete colour blindness. He argued that the amount of incompleteness could be accurately determined from the luminosity curve of a colour-blind person both red and green blind, and that the amount of incompleteness could be determined from observations made by the red or green blind at any part of the spectrum, if someone with normal vision made observations at the same place using unchanged white light for the comparison. He adduced evidence that the three sensation components of the different colours of the spectrum, as determined by himself, were verified by the results; and that the trichromatic theory accounted for all cases of incomplete colour blindness which he had measured.

Enumerative Studies in Malaria.

The object of researches reported by Professor RONALD ROSS and Dr. DAVID THOMSON was to make a minute co-ordinated study of cases of malarial infection occurring in the tropical ward of the Royal Southern Hospital at Liverpool. A measured quantity of blood was made into a dehaemoglobinized thick film, and the organisms contained in it counted. Almost daily estimates of the number of parasites, with frequent estimates of the leucocytes, the haemoglobin and the excreted urobilin, were made since the beginning of this year in 24 cases of *Plasmodium falciparum*, 8 cases of *P. vivax*, and 1 case of *P. malariae* and *P. falciparum*. Correlation, with minor deviations, was found between the number of asexual parasites present and the degree of fever. If the asexual forms did not number more than several hundreds per cubic millimetre they were not numerous enough in these cases to produce fever. The asexual forms did not disappear between relapses as usually thought, but tended to diminish. It was roughly estimated from these cases that quinine reduced the asexual forms by 50 to 80 per cent.

Haemoglobin Metabolism in Malarial Fever.

In a preliminary note Dr. G. C. E. SIMPSON said that in the pyrexia of malaria there was a marked fall in the haemoglobin of the blood, and further investigation of this question was undertaken in the hope that it might throw light on the relationship of malaria and blackwater fever. In benign tertian malaria a slightly increased output of urinary urobilin occurred; in malignant tertian malaria, a greater increase; and in the malignant form, marked urobilinuria was sometimes found. More urobilin was excreted in the faeces than in the urine, a fact which had been largely neglected by previous observers. In benign malaria faecal urobilin was excreted in amounts comparable to those in other pyrexial diseases; in malignant malaria a higher output was the rule, and might represent as much as 25 per cent. of the total blood. This showed that the haemoglobinometer readings recorded an actual destruction of haemoglobin. The number of corpuscles destroyed was larger than the number infected by parasites. It appeared that in malignant tertian malaria the removal of free haemoglobin by the liver prevented haemoglobinaemia of sufficient grade to produce haemoglobinuria. A remarkable excretion of urobilin was found in a case of blackwater fever, representing the destruction of an amount of haemoglobin equal to the whole of the circulating blood, the amount of haemoglobin passed unchanged in the urine being negligible in comparison. Haemoglobinuria in this case was not due to failure of the normal mechanisms to deal with an amount of haemoglobin such as was set free in ordinary malaria, but to a slight overflow of haemoglobin through the kidneys owing to the exceptional amount of haemolysis.

Sleeping Sickness.

Professor RONALD ROSS and Dr. DAVID THOMSON reported further observations on a case of sleeping sickness studied by precise enumerative methods. (1) The trypanosome cycle recorded in their previous paper continued till the patient's death. (2) The amount of fever was greater during the trypanosome increase. (3) The total leucocytes increased coincidently with the trypanosome increase. The mononuclears increased relatively more than the polymorphonuclears. During the trypanosome fall the leucocytes continued to increase in number. The number then decreased rapidly to normal and under when the trypanosomes again commenced to increase. A very marked mononuclear increase, coincident with a decrease of trypanosomes, was accompanied by a remarkable clinical improvement. (4) Atoxyl in small doses, 2 to 4 grains, and quinine and methylene blue in large doses had no appreciable trypanocidal action. (5) Subcutaneous injection of vaccines of trypanosomes obtained from heavily infected rats seemed to cause a premature rise in number of the patient's trypanosomes; the effect depended upon the time of injection in relation to the cycle. (6) Subcutaneous injection of leucocytic extract caused a marked leucocytosis on the day after the injection, and on one occasion this leucocyte increase was coincident with a marked clinical improvement. The conclusions drawn by the authors were as follows:

(1) The increase of trypanosomes is due to their active multiplication depending on the following conditions: (*a*) The liberation of a reproductive stimulant from the dead trypanosomes of the previous fall; (*b*) the small number of leucocytes, especially mononuclears; (*c*) the habituation of the trypanosomes to their antibodies; (*d*) the absence or diminution of antibodies. (2) The decrease of trypanosomes is due to their rapid death, and to a cessation of multiplication depending on the following conditions: (*a*) The large increase of leucocytes, especially of mononuclears; (*b*) the formation of antibodies in the serum. (3) The trypanosomes remaining between the rises are resistant forms. (4) Extracts of dead cells would appear to stimulate the corresponding live cells to multiply or divide.

Periodic Variations in Trypanosome Infections.

A paper communicated by H. B. FANTHAM, D.Sc., and Dr. J. G. THOMSON, on enumerative studies on *Trypanosoma gambiense* and *Trypanosoma rhodesiense* in rats, guinea-pigs, and rabbits, may be summarized as follows:—(1) The strains of trypanosomes used in these investigations were: (*a*) *T. gambiense*, old laboratory strain; (*b*) *T. rhodesiense* (Stephens and Fantham), from a patient suffering from sleeping sickness in Rhodesia. (2) Rats, guinea-pigs, and rabbits were inoculated with a definite number of trypanosomes, and daily counts were made of the parasites in the peripheral blood of the animals. (3) Periodic variation was found in all these animals comparable to that discovered by R. Ross and D. Thomson in the blood of the sleeping sickness patient. (4) Rats inoculated with each strain showed either a periodic increase or a continuous rise in the numbers of parasites. (5) The average life of rats inoculated with *T. rhodesiense* was 11.3 days; with *T. gambiense*, 13.8 days. (6) The average incubation period in rats in the case of *T. rhodesiense* was 2.9 days; in *T. gambiense*, 4.4 days. The average weights of the animals and the average number of parasites inoculated were approximately the same in the two strains. (7) In rats infected with *T. rhodesiense* the period between the crests of the graph was 3 to 4 days, while in *T. gambiense* this period was 4 to 6 days. (8) In guinea-pigs the trypanosomiasis tended to run a chronic course, but the life of animals infected with *T. rhodesiense* was shorter. The period between the crests of the graph in both strains was longer than in rats—namely, 5 to 8 days. (9) Rabbits inoculated with *T. rhodesiense* also exhibited periodic variation. (10) The periodicity was explained by (*a*) variations in resistance on the part of the host, accompanied by (*b*) the formation of latent bodies by the trypanosomes in the internal organs of the host during fall in numbers of the parasites in the peripheral blood.

Trypanosomes in Rats and Guinea-pigs.

Mr. H. B. FANTHAM also contributed a paper on the life-history of *Trypanosoma gambiense* and *Trypanosoma rhodesiense* as seen in rats and guinea-pigs, the main points of which may be summarized as follows: (1) The researches were undertaken to investigate the parasitological aspect of the numerical cyclical development found by R. Ross and D. Thomson in the trypanosome of a patient suffering from sleeping sickness contracted in Rhodesia. Rats and guinea-pigs inoculated with *T. rhodesiense* and with *T. gambiense* were killed at various stages of infection and their internal organs examined, controls being used. (2) The formation of a non-flagellate, latent or rounded body from a trypanosome was observed in life, much of cytoplasm and flagellum of the flagellate being cast off. (3) Non-flagellate bodies were seen to grow into flagellate trypanosomes when placed in fresh, warm, uninfected blood. (4) The latent or non-flagellate stages are formed at or near the time when the trypanosomes are most numerous in the peripheral blood. (5) The latent bodies are relatively numerous in the internal organs when the flagellates are few in the peripheral blood of the host. (6) The formation of latent bodies takes place especially in the lungs. The latent bodies collect in the spleen and bone-marrow, as stated by Salvin-Moore and Breinl. (7) Latent bodies from the spleen of an infected rat inoculated into another rat produced trypanosomiasis. (8) The latent bodies are the post-flagellate stages of one generation of trypanosomes and the pre-flagellate stages of the succeeding generation. (9) There is a life-cycle of *T. gambiense* and of *T. rhodesiense* in vertebrate hosts. (Compare *Crithidia* and *Herpetomonas* in invertebrates.) (10) The occurrence of latent bodies explains the recurrence of trypanosomiasis in hosts when it has apparently died out. (11) Mutual action and reaction of the host and the parasite lead to the formation of rounded bodies, which are relatively resistant. (12) Some flagellate trypanosomes do not form latent bodies, but degenerate. Some latent bodies die, and do not flagellate.

Treatment of Trypanosomiasis.

Professor R. ROSS and Dr. J. G. THOMSON reported experiments on the treatment of animals infected with trypanosomes by means of atoxyl, vaccines, cold, *x* rays, and leucocytic extract. In all the animals used in these experiments regular daily counts were made of the parasites in the peripheral blood by means of thick film method. (1) Small repeated doses of atoxyl prolonged the lives of rats infected with the Rhodesian strain of trypanosomes, but failed to have any trypanocidal action, as was demonstrated by the fact that the parasites increased rapidly and showed very active division. (2) They suggested that small doses of atoxyl actually stimulated the trypanosomes of this strain to divide, and that the drug was also a tonic to the body cells of the host. (3) Large doses of atoxyl were trypanocidal, but the parasites formed resistant bodies, and cure was only temporary. The dose required to approach as near lethal as possible, and even then a cure was not obtained in the Rhodesian strain. (4) Vaccine treatment gave indefinite results, and insufficient experiments prevent definite conclusions being formed. The life of one rat seemed to be prolonged when the vaccine was administered in doses of 10,000,000 trypanosomes, with an interval between the doses. They suggested that the time of administration, the amount given, and the interval between the doses, were all of importance, and further work was being carried out. (5) Animals suffering from trypanosomiasis had the incubation period delayed, and their lives prolonged in the cold. (6) *X* rays had no trypanocidal action, but the life of the animal might have been prolonged. (7) Leucocytic extract gave indefinite results.

ROYAL SOCIETY OF MEDICINE.

CLINICAL SECTION.

Friday, December 9th, 1910.

Sir A. PEARCE GOULD, President, in the Chair.

THE following were among the exhibits: Dr. W. HUNTER: A patient who came under observation in July, 1900, showing the typical features of *Addisonian anaemia*. The red blood cells were reduced by 25 per cent., and haemoglobin by 35 per cent. The case was treated by strict oral antiseptic measures, combined with the administration of antistreptococcic serum. The primary recovery was rapid and striking. A relapse occurred in the end of 1901, and another at the end of 1902. There was a severe relapse at the end of 1903, but the patient had remained without any relapse during the last seven years. The present condition of the blood was: Red blood cells 105 per cent., haemoglobin 115 per cent. The case showed, at the onset of the disease and during the relapses, characteristic clinical features, including glossitic gastro-intestinal disturbances, haemolytic changes with evidence in the blood and urine, pyrexia, and peripheral nervous disturbances. During the last seven years those features had been absent. Drs. J. GALLOWAY and W. J. FENTON: A case of *Stokes-Adams symptoms* in a lad aged 18. Mr. LAWRIE MCGAVIN: (1) A case of *varix* of the right superficial epigastric vein, and (2) a case of trunk lesion of the fifth and sixth cervical nerves, with keloid development in scars. Mr. L. VERNON CARGILL: A case of *double proptosis* due to a growth invading each orbit. Dr. G. A. SUTHERLAND and Mr. F. F. BURGHARD communicated a paper on two cases of *splenectomy* for splenic anaemia. The diagnosis of splenic anaemia or primary splenomegaly was based on certain clinical features, namely, anaemia of the chlorotic type, absence of any leucocytosis, and splenic enlargement without any known cause. Medical treatment had not proved curative, and the best results had been obtained from splenectomy according to the authors.

SECTION OF SURGERY.

Tuesday, December 13th, 1910.

Mr. RICKMAN GODLEE, President, in the Chair.

Septicaemic Haemorrhage.

MR. W. G. SPENCER, in a paper on septicaemia haemorrhagica, said its peculiarity lay in its occurrence from a mucous or serous membrane without any naked-eye breach of surface, or from a raw surface without any special blood vessel being opened; if it were parenchymatous it took place without any preliminary traumatism or degenerative process in the organ. Such haemorrhages were well known in connexion with specific and tropical fevers, and in veterinary pathology. Experimental investigation with strains of streptococcus obtained from haemorrhagic infections had established the rôle of micro-organisms in initiating the condition. Special interest attached to cases of haemorrhagic cellulitis; in these little or no pus escaped when the part was incised, but blood welled up in large quantity, though no vessel could be detected, and frequently proved so refractory to control that the patient died exsanguinated. There was evidence that these cases were due to a streptococcus. Streptococci were not the only organisms concerned, but their preponderance in recorded instances suggested the advisability of immediate administration of antitoxin, to be followed, if possible, by autovaccination.

Mr. HUTCHINSON, in a paper on gastro-intestinal haemorrhages occurring after abdominal operations and usually of septic origin, related a personal experience of the condition after a cholecystectomy in the presence of pus. A gastrotomy was performed to ligature the bleeding points, and the definite ulcer and erosions then discovered prompted a search through the *post-mortem* records of the last few years for similar cases at the London Hospital. Altogether 40 cases were found, and in 80 per cent. of them there was some septic process present. Twenty-four of the cases had been operated upon, but the proportion dependent on infection was exactly the same in the unoperated.

Commenting upon these two papers, the PRESIDENT said he was not altogether convinced that the renal cases mentioned by Mr. Spencer were really dependent on infection. In all cases of kidney disease, where there was a very low specific gravity of the urine, there was great risk of continued bleeding after operation. Some cases of "cellulitis" in which blood was found where pus was expected were due to actinomycosis. With regard to Mr. Hutchinson's cases, he thought more detail as to the anaesthetic should have been given.

Fracture of the Patella.

Mr. A. E. JOHNSON, in a paper on fracture of the patella without separation of the fragments, referred specially to those which were dependent on indirect violence. So long as the bone only was fractured, even transversely, and the aponeurosis remained intact, no separation occurred. A patient with this injury might go up and down many flights of stairs or do a day's work before seeking advice, or before some secondary strain tore the fascia and allowed the fragments to part. Diagnosis, apart from the *x* rays, was practically impossible, as none of the usual signs could be elicited. Treatment by immobilization, massage, and movement gave excellent results, but return to work was delayed in some cases to three months. Mr. HUTCHINSON added two examples to those mentioned by the author. He had noted a slight groove on the surface of the damaged bone, which was, he believed, the only recognizable sign. Mr. BRUCE CLARKE related a similar case he had seen some years ago.

LIVERPOOL MEDICAL INSTITUTION.

Thursday, December 8th, 1910.

Dr. T. R. BRADSHAW, President, in the Chair.

Liquid Air and Carbon Dioxide Snow.

DRS. STOPFORD TAYLOR and R. W. MCKENNA, in a paper on liquid air and carbon dioxide snow in the treatment of skin disease, said they had used these agents with much advantage for over three years. Liquid air was approximately two and a half times colder than carbon dioxide snow, and was easily applied on a piece of cotton-wool twisted round a cane; the application should be shorter than that of snow. The drawbacks to its use were its cost and the fact that it evaporated very quickly. The snow, on the other hand, was easily procurable and cheap, pencils of it were easily prepared and applied. The application of either air or snow was not very painful, except near superficial nerves, or over a bone, carious teeth, or on the ears. The therapeutic use depended upon the reaction; this varied according to the nature of the tissue, the duration of the application, and the pressure applied. It consisted in the copious outpouring of serum with the formation of a bulla; there was a marked diapedesis of leucocytes, the corrective tissue became swollen and enlarged, many of the capillaries became thrombosed. The epithelium, however, sustained the chief damage, and in most cases was completely destroyed. The after-treatment was simple: the bulla might be left unbroken for a few days, and then clipped off, and the resulting raw surface dressed with some simple dressing. Healing was somewhat slow, but restitution was complete, and sometimes surprising. The writers gave their experience in the treatment of naevi, moles, *x*-ray warts, lupus erythematosus rosacea, and lupus vulgaris. Their best results in lupus vulgaris were obtained by linear scarification, followed in a day or two by refrigeration with snow. Refrigeration should not be used in old people, or in those suffering from broken-down constitutions, or from arterio-sclerosis or nephritis.

Exhibits.

The following were among the cases shown:—PRESIDENT: Congenital heart disease in a woman aged 38, married fifteen years, and with three healthy children. Cyanosis had been present since infancy. There were also clubbing of the fingers, polycythaemia, and a systolic murmur over the ventricles. The heart was not much enlarged, and the patient enjoyed fairly good health. Dr. GORDON GULLAN: A child aged 3, suffering from haemorrhages from various mucous membranes and the kidneys. The child had been fed upon tea, and bread-and-butter. The case was considered one of scurvy rickets.

OXFORD MEDICAL SOCIETY.

Friday, December 9th, 1910.

Mr. WHITELOCKE, President, in the Chair.

THE following were among the exhibits:—Mr. BEVERS: (1) A woman who for several years had suffered from a large ventral hernia which had been cured by the implantation of a *Wire filigree*. (2) A man of 60, whose large irreducible inguinal hernia had been successfully treated by McGavin's double filigree operation. The method of inserting the filigrees in each case was demonstrated. He advocated the use of a wire filigree in those cases of ventral hernia which were of large size and when the muscles had undergone such wide separation that in order to bring them together and overlap them would necessitate a severe operation accompanied by shock and an undue increase in the intra-abdominal pressure. The final result in such cases without filigree was always doubtful. With a wire filigree a firm unyielding plaque was formed which could neither stretch nor bulge and appeared to be the most rational method of closing a gap in the abdominal wall. In inguinal hernia the operation was indicated when the rings were large and the inguinal canal practically non-existent due to atrophy of the muscles. The double filigree method would here give a good result, and, as McGavin stated, would bring all varieties of hernia within the reach of the surgeon. Mr. DODDS-PARKER: A tumour which he had removed from the abdomen of a woman. It consisted of of a cyst the size of a large cocoanut firmly attached to the convex surface of the spleen. The spleen had to be removed with the tumour. Clinically the tumour had been freely movable in the abdomen, but no certain diagnosis of its anatomical relations had been possible previous to the operation. The interior of the cyst contained a thickish jelly, in which no evidence of its origin could be seen microscopically. Sections of the wall showed that it consisted of granulation tissue, and by none of the ordinary methods of examination was any evidence forthcoming that it was caused either by a parasite or by a bacterium. Dr. GIBSON demonstrated a heart which showed aortic, mitral, and tricuspid stenosis due to old-standing rheumatic lesions. The patient in the wards had shown the ordinary features of severe heart failure of the right side.

MANCHESTER MEDICAL SOCIETY.

Wednesday, December 7th, 1910.

Mr. E. STANMORE BISHOP, President, in the Chair.

Malnutrition in Infancy.

DR. C. P. LAPAGE, in a paper on malnutrition in infancy, said that one cause thereof, tuberculosis, though not uncommon, must not be diagnosed without definite evidence. Treatment of the majority of cases consisted of exact and scientific methods in infant feeding, the percentage method being most valuable if not unnecessarily elaborated. In suitable cases lavage was of great value, especially when there was a tendency to spasmodic contractions of the stomach. Infusion was another therapeutic measure which often had striking results, especially in infants suffering from great loss of fluid. The prognosis of tuberculosis in infancy was by no means hopeless.

Glaucoma.

Mr. A. A. BRADBURNE read a paper on the early diagnosis and treatment of "simple" glaucoma. He advocated a modification of the ordinary disfiguring operation of iridectomy in selected cases. His modification, he considered, lessened the reactionary leucocytic infiltration, which tended to block up the already inefficient excretory channels and ultimately to seal up the iridectomy wound. It also permitted early massage, the latter being necessary since cases of "simple" glaucoma did not, as was the case with acute and chronic forms, possess a tendency to hypertension such as would assist maintenance of the patency of the wound.

NOTTINGHAM MEDICO-CHIRURGICAL SOCIETY.

Wednesday, December 7th, 1910.

W. MORLEY WILLIS, F.R.C.S., President, in the Chair.

The Mortality of Appendicitis.

IN opening a discussion on the mortality of appendicitis and how it can be reduced, Mr. A. R. ANDERSON said that during the last ten years 973 operations had been performed for appendicitis at the Nottingham General Hospital; 89 of the patients died, and of these only one had not had pus present at the operation. The number of operations had yearly increased, and the yearly mortality decreased. During the first eleven months of the present year there had been 138 operations with only seven deaths. The explanation lay in the earlier recognition of the disease, and prompter operations. The rapidity with which the symptoms, in some cases, passed from bad to worse was amazing. Most operators had found pus present within twenty-four hours of the commencement of the attack. Mr. R. G. HOGARTH said that 80 per cent. of all cases of appendicitis, no matter what complications arose, recovered without operation. The way to reduce mortality was to improve the diagnosis and the technique of the operation. In cases of doubt morphine should be avoided, and the pulse-rate watched every hour; if it increased, operation was indicated. The "quiet interval" due to perforation of the appendix was very dangerous, as it led one to a feeling of false security. Dr. C. H. CATTLE said that many patients had got safely through three or four attacks of appendicitis. Where these attacks became so frequent as to incapacitate the patient, he advised operation. One never knew when a mild case would become serious, and therefore he advised operation if the symptoms did not improve after twenty-four hours. Mr. K. BLACK advised operating where the symptoms persisted after forty-eight hours. He had had the opportunity of watching 400 operations for acute appendicitis performed by various eminent surgeons at four large hospitals, and he had observed that the mortality varied greatly with the individuality of the surgeon. If the operation was properly performed in the early cases the mortality should be *nil*. Dr. W. T. ROWE related a case where the pulse rate did not rise above 72 per minute, yet at the operation the appendix was perforated. During the convalescence it was discovered that the normal rate of that patient's pulse was 56. Mr. A. R. TWEEDIE did not advocate the removal of the appendix in cases of peri-appendicular abscess. Mr. T. B. GILBERT SMITH said he gave morphine when the pain was acute and the signs not clear. The PRESIDENT recommended immediate and early operation where possible. In localized cases of several days' duration operation might be delayed a short while; these cases did best when they were simply drained and the appendix left. It was impossible to foretell whether a case would run a mild course or not, and he advised operation, leaving the responsibility of a refusal on the friends.

HARVEIAN SOCIETY OF LONDON.

Thursday, December 8th, 1910.

Dr. HANDFIELD-JONES, President, in the Chair.

"606."

MR. ERNEST LANE, in a paper on the treatment of syphilis by the arsenical compounds, admitted the value of various arsenical compounds, but recalled the fact that irremediable blindness had followed the use of some of them. Excellent results had been obtained with "606" by Professor Wechselmann, from whose account it might be imagined that a new epoch in medicine had been reached. But there was another side to the picture: the enthusiasts had greatly minimized the pain produced by the injection. Ehrlich himself now admitted that there were many conditions in which the employment of "606" was inadvisable. Two cases of blindness had been recorded and two others hinted at. Twelve deaths following its use were incontestable. Early recurrences of symptoms were frequent, and the drug had not been long enough in use for any one to speak positively on the question of late recurrences. He had submitted some of his own cases to injection by Sir Almroth Wright and Mr. J. E. R McDonagh. The results were in the main favourable so far as he could judge in so short a time, but no better than he would have expected from mercurial treatment. One case of syphilitic ulceration improved temporarily but soon relapsed; another injection was given, followed again by improvement and another relapse, the ulceration spreading to twice its former size. The condition was now improving on intramuscular injections of grey oil. This case had been somewhat prematurely recorded in the *Lancet* as one of the successes of "606." Another patient had malignant syphilis, which had resisted mercury, and receiving no benefit from "606," ultimately died some ten weeks after the injection. Other cases were mentioned in which improvement was not particularly satisfactory, although the Wassermann test became negative. He showed a chart in which the temperature went up to 104° after the injection, and hyperpyrexia was present every evening for ten days following. Of his 17 cases, 5 certainly called for no enthusiasm. Syphilis was a mild disease, generally perfectly amenable to mercury; intolerance of that drug was rare, and would be the only justification for looking elsewhere for a remedy. In appropriate cases "606" was a valuable addition to our therapeutical stock. Laboratory research in syphilis, as in other diseases, was of great importance, but should not replace the results of clinical experience. Dr. D'ESTE EMERY, speaking of the Wassermann reaction, claimed for his own modification the advantages of rapidity and accuracy. When a quantitative method was used and interpreted in the light of the clinical history, the percentage of error was extremely small. Sir ALMROTH WRIGHT considered that "606" undoubtedly caused the disappearance of the spirochaete and therefore cured syphilis; further clinical manifestations were probably due to a secondary streptococcal or staphylococcal infection. Mr. ARTHUR SHILLITOE related some successful results from the use of "606" in his practice. Mr. CAMPBELL WILLIAMS drew attention to three deaths following the injection of "606" additional to the twelve mentioned by Mr. Lane, and gave cases within his experience in which relapses had occurred. In view of the risks attaching to the use of "606," he suggested a form to be signed by the patient for the surgeon's protection. Many of the cases reported as having been cured by "606" were nervous affections, generally regarded as parasyphilitic, and in these, theoretically, "606" should have no action. If it were ultimately found to have this specific action, views of the pathology of these cases would have to be altered.

LEEDS AND WEST RIDING MEDICO-CHIRURGICAL SOCIETY.

Friday, November 25th, 1910.

Dr. W. H. CHEETHAM in the Chair.

THE following were among the exhibits: Mr. J. STEWART: An *Inverted Meckel's diverticulum* from a child, aged 5½ years, who was seen at the end of 78 hours' suffering from signs of intussusception. On opening the abdomen fetid fluid escaped in large quantity. There was an enteric intussusception, which, by coaxing, was reduced with the exception of a small truncated mass inside the gut. This was seen to be a Meckel's diverticulum. An incision was made in the gut below this, it was drawn through the incision, tied and cut off, and the wound closed. The child died. Dr. C. OLDFIELD: A *Fibroid uterine tumour*, looking like adipocere; under the microscope the muscle outlines and nuclei could be seen, but staining was faint. Oöphorectomy had been done seventeen years before; this relieved the menorrhagia from which the patient was suffering, but pain and urinary symptoms had called for radical treatment. No change in the size of the tumour had resulted from the oöphorectomy. Mr. B. C. A. MOYNIHAN: A series of specimens from a case of *Cholecystectomy*, three of which illustrated a difficulty and a danger in the operation. In these three a portion of the hepatic duct had been removed with the gall bladder. It was shown by reference to the specimens that a distortion of a distended hepatic duct might result from the cicatricial contraction of a gall bladder, the seat of repeated inflammation. The gall bladder became then broadly sessile, and in its pedicle the hepatic duct was drawn up. The defect could be remedied by suture over a catheter pushed upwards from the common duct. Dr. W. H. MAXWELL TELLING: A *Factitious dermatitis* in a girl of 18. By rubbing with a wet finger she had produced oval lesions about 1 in. to 1½ in., looking like patches of ordinary moist eczema. The distribution of these extended from below Poupart's ligament to the dorsa of the feet, and was on the anterior surface of the limbs. There were no other lesions. The first lesion appeared three months before. Since that date there had been one or two fresh lesions regularly every day, and the lesions were almost identical in size and shape and practically equidistant from each other. No treatment was adopted, the girl admitting that they were self-inflicted.

ASSOCIATION OF REGISTERED MEDICAL WOMEN.

Mrs. DICKINSON BERRY, President, in the Chair.

Dental Clinics.

THE PRESIDENT, after giving an account of some of the papers read at the late International Congress on School Hygiene, expressed herself as strongly in favour of school clinics, at all events in many localities. Dental clinics were greatly needed, but must be free, otherwise the parents would not send their children to be treated, as they did not think it necessary to attend to teeth that were not aching.

Tuberculin Treatment.

Dr. HILDA CLARK, in a paper on the tuberculin dispensary, described the methods in use at her own dispensary which were based on those of Dr. Wilkinson. The patients attended twice a week; they were weighed and had their temperature taken by the nurse, who also visited the homes and gave the necessary instruction in general hygiene. Koch's Old Tuberculin was used in large doses. A test dose of 0.001 c.cm. P.T.O. (bovine) was given, and if necessary increased until a reaction was obtained. Then doses of 0.005 c.cm. increasing to 0 8 c.cm. P.T.O. were given twice a week. This course was followed by one of P.T., and if immunity was found not to be established to it, by one of Old Tuberculin (human). During the few months in which the dispensary had been open, cases in all stages of tuberculosis had been treated with excellent results in a large majority. Most of the patients continued at work during the treatment. None were any the worse, except sometimes during the first two or three weeks. Some complained of violent abdominal pain after the injections. Dr. JANE WALKER said she had tried new tuberculin, given at intervals of not less than six days, but did not think there had been any benefit from the treatment. In a chronic disease like pulmonary tuberculosis any special treatment must be tried with many patients and for many years before its effect could be judged. Dr. ESTHER CARLING reported the results in the first 3 cases to whom she had given tuberculin treatment: (1) A fairly advanced case of phthisis, which was not doing well on ordinary treatment; this patient went from bad to worse. (2) An early laryngeal case; there was no improvement. (3) A very early case of pulmonary disease; the patient did less well than before the treatment was started. The speaker had since then given the treatment further trials, but in no case had there been any striking result.

Reviews.

MEDICO-LEGAL ASPECTS OF ACCIDENTS.

THERE can be no question that the principles which underlie the Workmen's Compensation Act have given rise to a need for a new kind of learning amongst lawyers and doctors. To perform his duty properly the lawyer who essays to practise in compensation cases must know the Act and all the cases decided thereunder and something of medicine; the doctor must know all of medicine and surgery and something of the Compensation Act. New tracts have been opened up in the regions where law and medicine meet.

In the portly volume, *Accidents in their Medico legal Aspect*,[1] edited by Mr. DOUGLAS KNOCKER, barrister-at-law, we have a compendium—nay, an encyclopaedia—which will be invaluable to both classes of practitioner. The editor is well qualified for the task he has undertaken. Not only is he a member of the Bar, but he is also a member of the medical profession, which latter qualification he modestly conceals. In addition to that, he is the editor of *Butterworth's Compensation Cases.*

To have produced a work of the kind before us without assistance would have been impossible. To judge from the list of contributors, it is clear that Mr. Knocker has been fortunate in enlisting the help of members of the medical profession well qualified to deal with the subjects allotted to them. The list is as follows:

Harold Leslie Barnard, M.S., F.R.C.S. (Rupture); Harold Barwell, F.R.C.S. (Nose, Throat, and Ear); Frederick E. Batten, M.D., F.R.C.P. (Brain, Nerves, and Spinal Cord); A. P. Beddard, F.R.C.P. (Expert Evidence); Norman G. Bennett, M.B., L.D.S. (Teeth); James Berry, F.R.C.S. (Heart, Lungs, and Trachea); Hubert E. J. Biss, M.D., and H. Campbell Thompson, F.R.C.P. (Neurasthenia [Traumatic]); J. Bland-Sutton, F.R.C.S. (Breast); J. Blumfield, F.R.C.S. (Anaesthetics); A. E. Boycott, M.D. (Ankylostomiasis); Rupert Bucknall, M.D. (Wounds); E. Rock Carling, F.R.C.S., and A. H. Tubby, F.R.C.S. (Bursae, Fasciae, Joints, Muscles, Tendons); G. Lenthal Cheatle, F.R.C.S. (Infection); R. J. Collie, M.D. (Malingering); Edred M. Corner, F.R.C.S. (Gangrene, Glanders, Rabies, Tetanus); Lieutenant-Colonel Andrew Duncan, F.R.C.P., F.R.C.S. (Tropics); Herbert Eason, M.D. (Eye); F. W. Eurich, M.D. (Anthrax); Frederick Hobday, F.R.C.V.S. (Glanders, Rabies); C. M. Hinds Howell, M.D. (Electrical Injuries); Theo. B. Hyslop, M.D. (Insanity); Thomas H. Kellock, F.R.C.S. (Children); Douglas Knocker Barrister-at-Law (The Legal Aspect of Accident, and Case Guide); Thomas Lister, F.R.C.S. (Heart, Lungs, Trachea); John H. Macleod (Skin); John Pardoe, F.R.C.S. (Bladder, Genital Organs—Male); Louis Bathe Rawling, F.R.C.S. (Blood Vessels, Lymphatics); Percy Sargent, F.R.C.S. (Bones, Brain, Nerves, Spinal Cord); James Sherren, F.R.C.S. (Abdomen, Appendix, Intestines, Liver, Oesophagus, Pancreas, Peritoneum, Rupture, Spleen, Stomach, Suprarenal Glands); F. J. Smith, F.R.C.P. (Poisons); David Somerville, M.D. (Preservatives and Adulterants in Food); Thomas Stevens, F.R.C.S. (Genital Organs—Female); J. W. Thompson Walker, F.R.C.S. (Kidney); Frank J. Wethered (Alcohol); W. H. Wilcox, M.D. (Ptomaine Poisoning).

A number of original illustrations which appear in the text have been supplied by Mr. Bluett, of St. Thomas's Hospital. Other drawings were taken with permission from well-known medical textbooks. His Honour Judge

[1] *Accidents in their Medico-legal Aspect.* By leading medical and surgical authorities. Edited by Douglas Knocker, Barrister-at-law. London: Baillière, Tindall, and Cox; Butterworth and Co. 1910. (Roy. 8vo, pp. 1282, illus. 206. 30s.)

Emden and His Honour Judge Willis, K.C., and a number of members of the Bar (Messrs. R. F. Colam, E. Jones Williams, H. C. Harbord, W. F. L. Braidwood, K. Francis, S. S. Abrahams, and D. Nowell Pritt) lent their aid in correcting proofs, and in making suggestions.

The book is intended to give an anatomical, medical, and surgical account of the effects of personal injuries, whether due to breach of contract, negligence, or crime, and whether productive of an action at common law, a claim under an insurance policy, or under the Workmen's Compensation Act, or kindred cases. It is divided into three parts; in the first the editor gives a condensed account of the law of personal injury by accident, intended to be used by medical men, and arranged on the same plan as the medical part, which deals with the medical and surgical effects of accidents; the third part is a case guide, containing information of some five hundred legally decided cases.

The comment usually made upon a work which embodies the views of a number of persons is that there is no cohesion, no orderly scheme of arrangement amongst them. Mr. Knocker, however, must have had previous warning of this danger, for all the articles follow the same orderly and logical scheme of arrangement, and the medical articles have been planned by the editor with a view to assist the lawyer to understand the consequences of an accident to the part of the body alleged to have been injured, and to help him to follow the medical witnesses when they deviate slightly from the beaten track. Technical expressions are avoided as far as possible, but are explained when used, and with a view to securing uniformity of treatment contributors were invited to deal *seriatim* with the following questions:

1. What are the immediate consequences of the accident?
2. What chance is there of disease supervening as a remote consequence of the injury?
3. Was there any disease existing before the accident and aggravating its effects?
4. Within what time will the man be physically cured, and when will he be fit to return to his former work or to undertake some other employment?
5. Is there any need for an operation, and, if so, is it such an operation as a reasonable man would elect to undergo?
6. Is there any likelihood of a recurrence of the consequences of the injury?

Where all is excellent it were almost invidious to select any particular article for special commendation, but for the benefit of the medical practitioner we may draw attention to the admirable article on "Expert Evidence," by Dr. A. P. Beddard. The following passage serves to show the nature of the sound practical advice which is here given to the medical witness:

> The medical witness should remember what is his proper function in a case. Unlike counsel, he is not in court on behalf of a particular individual or opinion, but he is there as an interpreter of facts, who is to assist the court to reach the truth by expressing opinions of his own, and criticizing any contrary opinions which others have deduced from the same facts. He should adopt a simple and matter-of-fact style, avoiding exaggeration or any attempt at dramatic effects. . . . Other witnesses err in treating counsel as laymen, ignorant of medical matters. It is always wise to assume that counsel has made himself thoroughly familiar with the medical aspects of the case in question and has consulted the standard authorities.

In another place Dr. Collie gives to the two professions the result of his wide experience in the detection of malingerers. If the malingerer is sometimes adroit enough to deceive "the very elect," how easily may he practise his art upon judge and counsel? To lawyer and doctor, therefore, this chapter is of special value.

"Traumatic neurasthenia," a complaint which is frequently made the peg on which to hang a claim for compensation, is also most ably dealt with in this volume. To the lawyer who has to examine a doctor on the subject a brief description of this obscure complaint will be invaluable. If, however, Mr. Knocker's work gains the popularity it deserves, it will be necessary to be canny in the use of it. For the "expert on the other side," who is about to undergo the ordeal of cross-examination, may have taken the precaution of preparing his answer to the passages cited!

Another useful portion of the work, from the medico-legal point of view, is the digest of cases. An ordinary digest of cases reveals little that is of medico-legal interest. This epitome, however (for which the editor is responsible), is designed (*a*) to afford lawyers numerous instances of cases where medical points have arisen and been threshed out, in order to assist them in advising upon or conducting similar cases; (*b*) to give as far as possible to all engaged in litigation some idea of the amount of damages which will probably be recovered; (*c*) to assist doctors in estimating the probable duration of incapacity after injury.

An exhaustive index of no less than 160 pages completes a work which cannot fail to be invaluable to any member of the legal or medical profession who is concerned in a workmen's compensation case.

PERIODICITY IN WOMEN.

NEARLY 750 pages on the duration of pregnancy and the prediction of the day of delivery indicate an amount of toil of which hardly anybody in the world but a German professor is capable. Yet this is what Professor SCHATZ[2] has given us. He frankly says in his preface that he does not expect any one will read his book straight through. If they will study it a little bit at a time he will be satisfied. The book might have, as an alternative title, "a study of periodicity." The author studies not only the periodicity of pregnancy, of menstruation, of ovulation, and of epileptic fits. He tells us of electric months, of lunar months, of solar months, and of blood-pressure months. There are elaborate charts on almost every other page, showing curves indicating fluctuations of many different things. He holds that the duration of pregnancy depends partly on the father, partly on the fetus, as well as on the mother. There are precise records of 480 cases and 281 charts of curves. There is a familiar metaphor that sometimes one cannot see the wood because of the trees. This metaphor fits this book. The cases and the charts are detailed, and doubtless accurate records of cases. There is a full table of contents; but there is no alphabetical index and no summary o conclusions. We admire the industry of the author, and we commiserate the reader who has to wade through more than 700 pages and study 281 charts, of a by no means simple kind, to discover what it is all about. This work reminds us of the literary fate of Jeremy Bentham. His works fell almost stillborn in England: they called up interest in no one. They aroused attention only when they had been translated and summarized by a Frenchman. English readers were attracted by the brevity and clarity of the Gallic editor. In time we hope Dr. Schatz may find—will he pardon us if we say?—an accoucheur who will put his conclusions briefly before his professional brethren.

MOTHERHOOD.

Practical Motherhood[3] adds another to the long series of handbooks which have been written to assist women in taking care of their own health and in the rearing of their children. In the first part of the book Dr. HELEN CAMPBELL discusses the management of pregnancy and the minor troubles which occur at that time, and gives useful advice as to the preparations for the confinement and the general hygiene of the mother and child. Much space is devoted to the question of infant feeding, which is treated in all its details and simplified by the inclusion of a number of tables showing the quantities of food which may be given, and explaining the modification of milk for infant's use. The author recommends whey as a diluent, with the addition of a liberal amount of cream, thus raising the proteid and fat percentages of the mixture higher than that ordinarily advised. The dietary for children in the second year suggests for babies of 12 to 18 months beef or mutton juice at one meal and veal or mutton broth in which an egg has been beaten up at another, with the addition of cereals in the form of oat,

[2] *Klinische Beiträge zur Physiologie der Schwangerschaft.* Von Professor Dr. Friedrich Schatz, Geh. Medicinalrat, etc., in Rostock. Leipzig: J. A. Barth. 1910. (Med. 8vo, pp. 764. M. 20.)

[3] *Practical Motherhood.* By Helen T. Campbell, L.R.C.P. and S.Edin., L.F.P. and S.Glasg. Published by Longmans, Green, and Co., London, and R. L. Esson and Co., Johannesburg. 1910. (530 pages, 31 illustrations.)

wheat, or plasmon jelly at the three other meals. Although it is recognized that children require relatively more proteid food than adults, the tendency to feed abundantly with nitrogenous materials is easily overdone. The diet suggested for children of 18 months to 2 years consists of five meals, at three of which plasmon jelly is to be given, in addition to porridge and milk, soup or broth, pounded chicken or tongue, and a boiled egg; this would appear to be rather more than the normal infant can comfortably digest. Similarly in the third year the daily meals are to include porridge and an egg at one time, soup and mince at another, and farinaceous food with plasmon jelly and milk at a third. In the sixth year the child is to have porridge and fish, soup, meat, and pudding, and egg and plasmon as well as milk, fruit, and other things every day. Fish and eggs are not considered to be substitutes for meat, while it is suggested that red meat, rather underdone, may be given daily after the thirteenth month. The effect of such a highly nitrogenous diet upon the temper and nerves of the average child cannot be altogether satisfactory. The book contains some excellent advice as to the treatment of minor infantile ailments and emergencies, which will prove especially useful to parents living at a distance from medical aid. It also deals at considerable length with the early education and training of young children, and with the special needs of school children, showing how to recognize and prevent overstrain, and giving practical ideas concerning the hygiene and care of older children which will be found to be extremely valuable.

EMERGENCIES OF GENERAL PRACTICE.

THE volume which has been published by Mr. PERCY SARGENT and Dr. ALFRED E. RUSSELL under the title of *Emergencies of General Practice*[4] will be found useful in many respects to a large number of practitioners. It contains instruction in the treatment of emergencies which may be relied upon as conveying the latest and most approved methods of management in many difficulties that men in general practice are called upon to deal with. But, like similar treatises, it fails to devote enough attention to the more commonplace exigencies of the daily routine as carried out under circumstances of single-handed responsibility and under conditions often far removed from the assistance of skilled nursing or of laboratory investigations. A book equal to the requirements of the country practitioner must needs be written by one who, having been himself engaged in general practice, is familiar with the many minor emergencies which call constantly for the exercise of ingenuity and the adaptation of available resources—which are often of the most meagre description—to the solution of the difficult problem of utilizing simple and homely measures to the conquest of unexpected and often serious contingencies as they arise in everyday contact with disease and injury. The guidance of the authors' teaching is excellent, so far as its recommendations are available by those who consult its pages for assistance and who are in touch with the modern facilities of medicine and surgery, but it is written from the point of view of hospital experience, and hardly provides fully enough for the doubts and uncertainties which beset those whose emergency difficulties have to be met by a limited command of recent methods of prevention and treatment. It deals much more fully with surgical than with medical questions, and in this respect again is of restricted value as a guide to the average practitioner whose work in a wide and sparsely populated district is, as a rule, that of a physician far more than that of a surgeon. The book is clearly written, well illustrated, and is supplied with an excellent index which makes reference easy to the various subjects with which it deals.

This book,[5] *Medicina d'Urgenza* (which is somewhat stouter in form than the usual Hoepli manual), attempts to do for medicine what has been often done for surgery, namely, to deal with the emergency cases likely to be met with in daily practice, on the medical side. Professor TROMBETTA has cast his net pretty wide, for he includes almost every acute medical type of illness. A condensed account of each disease is given and appropriate remedies described. There is a useful chapter on the treatment of pain *per se* where most of the more recent drugs and applications are discussed. Other sections deal with various poisons, uraemia, acute zymotic diseases, heat apoplexy. The section devoted to the nervous system deals with epilepsy, eclampsia, apoplexy, neuralgia, etc. And the seventh, eighth, and ninth parts deal with asthma, croup, appendicitis, haematemesis, peritonitis, renal colic, etc., to name only a few of the morbid conditions. The book is eminently practical in its aim and is indeed the result of the experience of many years' practice, the author making free use of the notes he has made during past years. He expressly warns his readers that it is not meant to exclude the use of larger and fuller textbooks which will always have their place—but looked on as a condensed extract of these larger works and of the practical wisdom gained in practice, the work well holds its own with others of its class.

SURGICAL ANATOMY.

WE have to confess that on receiving Mr. WHITTAKER'S *Manual of Surgical Anatomy*[6] we were to a slight degree prejudiced against it. There seems no good reason for adding another to the long list of books on this subject. Mr. Whittaker's modest preface disarms our criticism, for he says: "The book was written at the request of many of his students, and is not in any sense a textbook but merely an outline to be filled in by the study of larger works, attendance at lectures, and above all by diligent work in the dissecting room," although indeed we imagine that by the time a student begins to read anatomy as surgical anatomy he believes the dissecting room to belong to the things of the past. The arrangement of text is very similar to that in other books on surgical anatomy. The sections on the anatomy of the ear, eye, and nasal cavities are well written, though the description of the course of the facial nerve fails just at the point where the nerve is most interesting surgically, namely, after it leaves the inner wall of the tympanum and before it reaches the stylo-mastoid foramen.

Much of the information contained in the book is arranged in tabular form; on every other page we find tables of nerves, tables of muscles, tables of lymphatic nodes. We suppose it is bordering on the ideal to wish that anatomy might be written interestingly, for we *have* read books on surgical anatomy which flowed like a romance, but we find the style of this book and the mode of presenting the facts hard and uncompromisingly severe. There are forty-eight illustrations, many of them very crude diagrams. It is difficult to understand upon what plan they have been introduced, as there are many parts unillustrated where an illustration might have been very helpful, and others where the diagram seems unnecessary. On the whole it seems to us that Mr. Whittaker's book is not likely to be of more than local use for his own students or for men who have already got up the subject, and wish a rapid summary before an examination. There are numerous blunders in the text which we hope will be corrected in the next edition. We will content ourselves with pointing out that on page 20 we find "Stackie's director" where "Stacke's protector" is meant; on page 160 we are told that the "appendix arises from the postero-internal aspect of the ileum"; and on page 912 "abductor tubercle" should be "adductor tubercle."

MEDICAL SERVICE IN THE FIELD.

A HANDBOOK entitled *Medical Service in Campaign*[7] has been prepared under the direction of the Surgeon-General,

[4] *Emergencies of General Practice.* By Percy Sargent, M.B., B.C. Cantab., F.R.C.S., Surgeon to Out-patients, St. Thomas's Hospital; Surgeon to the National Hospital for the Paralysed and Epileptic, Queen Square; and Alfred E. Russell, M.D., B.S.Lond., F.R.C.P., Physician to Out-patients, St. Thomas's Hospital. Oxford Medical Publications. London: Henry Frowde, and Hodder and Stoughton. 1910. (Demy 8vo, pp. 376, illustrations 91. 15s.)

[5] *Medicina D'Urgenza.* Par Dott. Professor E. Trombetta. Milan: U. Hoepli. 1910. (Pott 8vo, pp. 720. L. 6.)

[6] *A Manual of Surgical Anatomy.* By Charles R. Whittaker, F.R.C.S.Edin. Edinburgh: E. and S. Livingstone. 1910. (Pp. 248; illustrations 48.)

[7] *Medical Service in Campaign.* By Major Paul F. Straub, Medical Corps (General Staff), United States Army. Philadelphia: Blakiston's Sons and Co. 1910. (Post 8vo, pp. 164, illustrated. 6s. 3d.)

United States Army, and published by authority of the War Department. It includes the substance of a series of lectures delivered to the Medical Department, Camp of Instruction, at Antietam in 1909. In the introductory chapter Major STRAUB points out that the army medical officer who is content with possessing merely a good knowledge of his strictly professional work will be of very little use in war time, and that if he is to be worth his pay he must, in addition to being thoroughly familiar with the medical organization for war, have some general knowledge of army organization, map reading, and military tactics.

Chapter II deals with "Collateral Military Subjects," and is of considerable general interest. The writing of orders is clearly explained. This is always a troublesome subject, and one that requires some study and not a little practice if the writer of the order hopes to see his wishes carried out. The sections on map reading, weapons, and efficiency are practical, and should prove useful to any medical officer, or, indeed, any one taking the field for the first time. The section on casualties contains some very useful figures showing the actual losses sustained by both sides in the more important battles which have taken place since 1862. On page 48 Major Straub expresses the opinion that the care and treatment of the less severely wounded is of greater importance to the army in the field than that of the serious cases, as a large percentage of the former may be expected to recover soon and resume duty at the front.

The chapter on organization applies to the American army, and is therefore of little interest to us except for purposes of comparison with our own establishments The general principles laid down under "Administration" and "Battle Dispositions" are very sound, and applicable to all armies. In the chapters on "Regimental Service" and "Dressing Stations" the author gives some practical directions based on a careful study of the literature dealing with the work of the medical services in recent campaigns.

Questions affecting the location and work of field hospitals, stations for slightly wounded, and medical units on the lines of communication, are all discussed in a thoroughly practical manner, and some very useful rules are given for the guidance of officers who may find themselves placed in charge of one of these formations. Major Straub has evidently made a careful study of the not inconsiderable literature which has appeared in recent years on the working of the medical services in the field, and has succeeded in assimilating the best of the foreign ideas and applying them to the American army medical organization. This somewhat detracts from the value of the book for officers of the British service, but the work is well worth studying by any one wishing to acquaint himself with the general principles which should govern the employment of the medical services in the field.

SPEECH READING.

IN a compact volume of 166 pages, Mr. A. J. STORY, Headmaster of the North Staffordshire Blind and Deaf School, treats of the principles and practice of *Speech Reading*[8] for the use of those who have become deaf in after-life. The work is, indeed, intended as a manual for self instruction in speech reading in the case of those who have lost their hearing after having attained a full knowledge of the English language, and not as an aid in teaching "lip reading" to the congenital mute. In deafness supervening in adult life, the one-sided disability to take part in conversation is often acutely felt; and although no book can adequately take the place of tutorial instruction in the art and practice of reading from the lips of another, yet when skilled personal aid is not available, a manual such as this may be of much utility. A series of exercises in recognizing the visible phenomena of speech, based upon a detailed study of the production of each sound element, is set out at length, and if these be studied and practised with the help of a hearing friend, the deaf patient may gradually overcome many of his difficulties, and escape from the comparative isolation in which his auditory defect has placed him. The book is the work of an expert in the oral method of teaching the deaf, and bears evidence of scientific knowledge and practical skill, though couched in language as free as possible from technicality so as to be intelligible to any deaf person of average education.

[8] *Speech Reading for the Deaf-not-Dumb.* By A. J. Story, Headmaster of the North Staffordshire Blind and Deaf School. London: The Celtic Press. 1910. (Post 8vo, pp. 175. 5s.)

LETTERS OF LINNAEUS.

THE University of Upsala, subsidized by the Swedish Government, is publishing the letters[9] to and from Carl Linnaeus in two parts. Part I includes letters to and from Swedish friends; Part II is devoted to letters to and from foreign correspondents. The correspondence between Linnaeus and Abraham Bäch occupy the whole of Part I, Division IV, and extend over the period 1741–1776. The friendship between the two writers appears to date from 1730, when they met as medical students at the University of Upsala. Curiously enough, the friendship increased, and the correspondence began in the year 1740 or 1741, when the two were rival candidates for the appointment of Professor vacated by Rudbeck. Doubtless the intrigues which existed at this period to favour a third candidate did much to cement the friendship of the two whose correspondence continued till the death of Linnaeus. The letters from Linnaeus are far more numerous than those from Bäch, being 523 to 15. This disparity may be accounted for by the fact that Bäch took charge of his dead friend's correspondence, from which he probably withdrew his own letters by permission. The letters of Linnaeus aim at no literary perfection or polish, but are the hasty notes and comments on the everyday life and thoughts of a man whose intense energy involved him in an almost endless variety of interests. He was at this period engaged in a scientific literary work and correspondence with fellow workers throughout the whole of the civilized world. Lectures and other work connected with the university also occupied much of his time, and his letters to his friend appear to have been a pleasant recreation, as well as a diary of his life. Many of the letters are in Latin—of a sort—and this will be appreciated by the many readers to whom the Swedish language is strange. In some letters the writer maintains his carefully worded Latin sentences to a point where patience is lost, and Swedish is necessary as an easy channel for his thoughts. Nearly all the letters contain references to matters connected with botany, and some are of special interest to the medical profession, as they give the great botanist's opinion on the medical value of certain plants. Thus:

Chamomilla tam romana quam nostras debet assumi prior in duritie mammarum, in Nephritide, colica, torminibus a partu, in enematibus, vi sudorifera puerperis, etc., insignis. posterior in Dysuria, vomitu gravidar., Cardialgia, Tertiana, Balneis, Pediluviis, fomentis, etc., usitatissima est: nec iisdem viribus gaudet cum antecedenti: haec enim magis amara: haec℅ caeruleum dat, quodnon praecedens, indicio virium diversarum. Paeoniae radix et flores excludi non debent, nec video qua ratione has in dubium vocare poteris; at vero flores (si de his sermo sit) forte possent omitti, absque insigni damno medicinae, quamvis in Eclampsia utator nom semper frustra.

On Christmas eve, 1754, the botanist's wife, his "uxorcula," was seized with epidemic malignant fever, and her condition was critical for over a month—a period which Linnaeus found the most terrible in his life. All his time was spent in the sick room while his wife moaned and tossed about. To Bäch he wrote *Amico sine pari*:

Fato pulsante ostia dulcissimae per tot annos conjugis, ad coelum tendentibus manus innocentissimas tot orbes futuris tenellis infantibus, ubi nec Apollo nec Æsculapius opem ferre poterant, ego extra me ipsum constitutus seposui res humanas, ludicras et vanas, oblitus amicorum, imo mei ipsius oblitus.

And later:

Nondum cessarunt meae lacrymae: altera quavis nocte etiamnum periclitatur uxor mea: di meliora.

On January 31st he wrote *Amico Integerrimo*:

Ex carcere quasi extractus incipio aura hujus orbis frui, convalescente sensim uxorcula mea.

[9] *Bref och Skrifvelser af och till Carl von Linne, Med. Understöd af Svenska Staten, Utgifna af Upsala Universitet.* Part I, Division IV. Stockholm: Aktiébolaget Lgns. 1910. (Roy. 8vo, pp. 369. Kr. 6.50.)

Referring to the epidemic a week later he says:

It is most distressing that so many should suffer and die from a disease the causation of which is unknown. Were the state to offer a prize of 50 ducats to the discoverer of the cause, research work would be encouraged. No one cares to investigate the causation of the disease, for the finder will get no thanks, rather the opposite.

Evidently the lot of the sanitary reformer was no more happy a century and a half ago than it is to day.

NOTES ON BOOKS.

WE have received from Lieutenant-Colonel DE ZOUCHE MARSHALL a pamphlet entitled *Fairplay for Territorials*,[1] in which he suggests a scheme for proportional army pay for the Territorial Forces; that is to say, that the Territorial soldier, instead of only receiving pay when in camp, as is now the case, should also receive pay at proportional army rates for attending drills of two hours' duration twice a week for three months. Taking a soldier's day at twelve hours, the Territorial's pay should be a twelfth of that for each hour he is on parade. Elaborate tables are provided showing what each arm of the service would receive in the various ranks. The extra cost to the country would in round figures be a quarter of a million, and, in the author's opinion, this would produce an adequate supply of officers and men, and is the only means of retaining a voluntary force and saving the necessity of resorting to universal compulsory service, which he estimates would cost four millions a year. The suggestion is no doubt a good one from some points of view; it would cover men's out-of-pocket expenses, and we know that many men who are quite willing to give their time are not willing, indeed sometimes cannot afford the frequently repeated small payments entailed in going to drill and instruction. But we think that many persons would consider that a quarter of a million added to the cost of the Territorial Force could be spent to better advantage than in providing forty-eight hours' extra drill.

The Pharmacy Acts, 1851–1908, is the title of a small handbook of 126 pages on pharmacy legislation past and present by HUGH H. L. BELLOT, D.C.L., Barrister-at-Law.[2] It is an epitome of all the statutory regulations with regard to the sale of drugs in this country. The author gives *in extenso* the Arsenic Act, 1851, the Pharmacy Act, 1852, the Pharmacy Acts, 1868, 1869, and 1898, and the Poisons and Pharmacy Act, 1908, and between the sections of these Acts there are in many instances interspersed notes by the author on cases which have been decided in the law courts on the sections in question. On page 98 there is a useful and convenient tabular exposition of poisons, giving a comparison of the old schedule with the new, sulphonal being the latest addition. On page 107 is a report of the decision of the House of Lords in the celebrated case, the Pharmaceutical Society of Great Britain *v.* the London and Provincial Supply Association, Limited, touching the right of a company to carry on the business of a pharmaceutical chmist by employing qualified managers. The arrangement of the book is concise and simple, and affords a means of quickly ascertaining points of law in connexion with the sale of poisons.

The thirty-fifth volume of the *Transactions of the Edinburgh Obstetrical Society*,[3] edited by Dr. WILLIAM MCCRAE TAYLOR, brings the record of its work down to the middle of the current year. The papers of an obstetrical order number half a dozen, the total being brought up to fifteen by gynaecological and miscellaneous communications. Among the latter are a report of a case of antenatal lumbar pneumonia, by Dr. Alexander Don, and the valedictory address of the retiring president, Professor Stephenson. The gynaecological papers include an account by Professor Kynoch of suprapubic transverse incisions, as introduced by Küstner and modified by Pfannenstiel. A paper on the same subject, it may be noted, by Dr. A. W. W. Lea, will be found summarized at page 1777 in our account of the last meeting of the North of England Obstetrical and Gynaecological Society. Papers of special interest among those devoted to obstetrics are a short record by Dr. H. M. Church of two cases of rheumatoid arthritis presumed to be of puerperal causation, and Dr. Ballantyne's expression of views on the rational puerperium. Neither the latter paper, nor that by Professor Haultain, to which it may be regarded as an answer, should be missed by practical obstetricians. Professor Haultain's paper will be found in the twenty-fourth volume of the *Transactions*, and also at page 307 of the second volume of the BRITISH MEDICAL JOURNAL for 1909. Dr. Ballantyne's paper also appeared in full in our columns, and will be found at page 4 of the first volume for the current year.

The American Climatological Association held its meeting in May this year at Washington under the presidency of Dr. E. R. Baldwin of Saranac Lake, and the twenty-sixth volume of the association's transactions[4] contains a complete record of what passed thereat. Few of the papers read were, strictly speaking, of a climatological order, though Norway as a resort for neurasthenics came under consideration. In an elaborate paper on the climatology of cancer, Dr. R. V. Curtin attempted to determine the comparative distribution of this disease in all parts of the world, and to draw therefrom conclusions as to its causation. Most of those on which the author ventures are of a negative character, though he agrees with others who have studied the same subject from differerent points of view, that cancer is mainly a disease of civilization and commoner among the well fed than the ill fed. The other communications included several dealing with the tuberculin treatment of out-patients.

A general election in December is almost as inconvenient to compilers of year books as a general election in January. *Whitaker's Almanack* for 1911,[5] in order that it might reach distant parts of the world for Christmas and New Year, had to be sent to press in November, at a time when it was not even certain that a general election would take place. In consequence the volume contains a list of the last House of Commons, which is, of course, already out of date, but the publishers undertake to supply to every purchaser who will forward his name and address in a prepaid envelope, a supplement free of charge containing the results of the election which is just coming to an end. The accession of King George V alone involved a number of changes in the official sections of the almanack, and a chronological summary is given of the chief events of the reign of Edward VII. Several new features have been introduced into the present issue, including a comprehensive table of the monetary units of the world, and the weights and measures of the principal countries. There are also articles on the military and educational systems of the world, the naval programme of the maritime powers and the administration of the British Army. This annual is so well known that it must be unnecessary for a reviewer to attempt either to describe it or to praise it. It is probably one of the most comprehensive and compact annuals published in any country and is an indispensable companion for the writing table.

We have also received a copy of the new edition of *Whitaker's Peerage, Baronetage, Knightage, and Companionage*,[6] which has reached its fifteenth issue. The volume contains a great many additions and we observe that it is brought so closely up to date that it contains the names of Sir Alfred Pearce Gould and Sir J. K. Fowler. The demise of the Crown has led to a revision of the Court appointments, and the editor has added an account of the coronation of King Edward VII, which he thinks, no doubt with justice, will be read with interest in view of the coronation of King George V, which is to take place next June. The book contains a complete list of peers, baronets, and knights arranged in alphabetical order, and in each case some personal and family details are given.

[1] Published by Bull and Son, Victoria Road, Surbiton.

[2] *The Pharmacy Acts, 1851–1908*. By Hugh L. Bellot, M.A., D.C.L., Barrister-at-Law, of Trinity College, Oxford, and of the Inner Temple and Midland Circuit; with a Foreword by Jesse Boot. London: Jesse Boot. (Demy 8vo, pp. 134. 3s. 6d.)

[3] *The Transactions of the Edinburgh Obstetrical Society*. Vol. XXXV. Edinburgh: Oliver and Boyd. 1910. (Demy 8vo, pp. 215.)

[4] *Transactions of the American Climatological Association*, vol. xxvi. Philadelphia. 1910. Printed for the Association. (Demy 8vo, pp. 235.)

[5] *Whitaker's Almanack* for 1911. London: J. Whitaker and Sons. 1911. (Cr. 8vo, pp. 971. Price 2s. 6d.)

[6] *Whitaker's Peerage, Baronetage, Knightage, and Companionage* for the year 1911. London: J. Whitaker and Sons. 1911. (Cr. 8vo, pp. 812. 5s.)

MR. HENRY SILVER, a former member of the staff of *Punch* and a member of the famous table from 1857 to 1870, and an intimate friend of Charles Keene, who died on November 30th, leaving property of the net value of over a million sterling, has bequeathed £50,000 to the Royal Free Hospital, and £25,000 each to the Royal Victoria Hospital for Children and the Hospital for Children, Great Ormond Street.

MEDICINAL AND DIETETIC PREPARATIONS.

Casona Cheese.

WE referred recently in these columns to the employment of agar-agar in the treatment of chronic constipation, on account of its property of preventing the formation of hard faecal accumulations in the bowel. An ingenious application of this property has now been brought to our notice by the Severn Valley Dairy Products Company (Stonehouse, Glos.) who has submitted samples of "Casona" cheese, prepared with the addition of agar-agar so as to form a non-constipating and easily-digestible cheese. The samples submitted consisted of a soft cheese of mild and agreeable flavour; analysis of the plain "Casona" showed it to contain: Protein, 18.2 per cent.; fat, 21.9 per cent.; water, 57 per cent. Other samples were "piquant," "savoury," and "celery" flavoured. No doubt this form of cheese will permit those who are unable to digest ordinary cheese properly to enjoy again a valuable article of diet; it is intended either to be eaten with bread or biscuit, and to be used in the preparation of various dishes.

MEDICAL AND SURGICAL APPLIANCES.

A Combined Tongue Clip and Junker Terminal.

DR. G. A. H. BARTON (London) writes: During operations on the upper air passages the anaesthetist not infrequently has his hands literally full. To render his task a little easier I have designed the combined tongue clip and Junker terminal here illustrated, and made for me by Messrs. Mayer and Meltzer. The tongue clip is of the Watson Williams pattern, except that the point protector has a little slit on either side, allowing of the passage of the fine end of the pin in or out when the spring is depressed, rendering its adjustment slightly easier. The pin is set on the Junker terminal at 1½ in. from its free extremity. The terminal is short, its cross section oval, and slightly curved upwards at its free end to carry the orifice away from the dorsum of the tongue. Whilst not suggesting for a moment that this device should replace the many excellent gags which are supplied with Junker terminals attached, I think it a useful alternative in the class of case indicated above—and, indeed, in many operations on the head and neck region where Junker's method is a convenient one. When no traction is required on the tongue, the pin serves to hold the terminal in place; if traction is required it can be effected by a single finger in the loop.

New Cellulose Films.

We have received from Mr. W. Martindale (10, New Cavendish Street, London, W.) samples of cellulose films in three forms and thicknesses: "Taffetas" (yellow, moderately thick, and substantial, as thick as ordinary gutta percha tissue); "aseptafilm" (colourless and thin); and "cellafine" (colourless and very thin). They are all transparent, and tear equally in all directions. These films are intended for use as substitutes for oil silk or green protective, gutta-percha tissue and such like materials. The advantages claimed are that they are sterilizable both by boiling and by dry heat in a sterilizer, that they are indifferent to the action of chloroform, ether, and alcohol, and that they are cheaper than the other substances mentioned. They are machine-made, and can be supplied in rolls 33 inches wide, and any desired length. We have applied the tests described by the manufacturers as well as some others, and have found these cellulose films stand them all. It is a very decided advantage that they can be boiled in an ordinary soda solution for five minutes without the slightest perceptible alteration. We find them in every way most elegant preparations, worthy of the reputation of the manufacturer. The only fault we have is that the descriptive names of the three different kinds are not happy. These cellulose films may be strongly commended to the notice of surgeons in such operations as skin-grafting, where a delicate strong membrane is to be interposed between the graft and the gauze dressing, and in drainage of abdominal abscesses, where it is undesirable that gauze packing should become firmly adherent to the wall of the cavity; the family practitioner also will be glad to have at hand such excellent and fine materials for everyday use.

THE MEDICAL SCHOOL AND THE HOSPITAL.

Address by Lord Ilkeston.

THE prizes gained by students of the Westminster Hospital Medical School were distributed on December 15th, by the Right Hon. Lord Ilkeston, P.C. Sir JOHN W. WOLFE-BARRY, chairman of the hospital, presided, and among others present were Lady Ilkeston, Sir Douglas Straight, Mr. H. D. Erskine (Serjeant-at-Arms), Colonel Sparks, Mr. Montague Smith, and the members of the hospital medical staff. Among those who sent letters of regret at enforced absence were Mr. Justice Swinfen Eady, Mr. Justice Warrington, Lord Hemphill, Mr. Burdett-Coutts, M.P., Sir Edward Davidson, Mr. Frank Heath, and Mr. Edmund Sargant.

The CHAIRMAN, after welcoming Lord Ilkeston, dwelt upon the advantages of a close alliance between the hospital and the school—advantages which, he said, the House Committee and governors recognized to the full. These advantages were mutual. It was not possible to obtain a proper education for the medical student without the clinical teaching in the ward; the hospital gained in increased efficiency by adding to its ordinary functions that of a teaching centre, and the public gained most of all, because one of the great hopes of the future lay in a thorough education for those who intended to seek medical practice. The financial resources of Westminster Hospital were not very great, and the governors had been able to assist the school only to a moderate degree. The help they had been able to give was strictly in accord with the recommendation of Sir Edward Fry's committee, namely, that no money should be diverted from the sick and suffering poor to medical education unless with the consent of the subscribers. Sir John added that the House Committee had been able to start a laboratory under Dr. Carmalt-Jones, which was now in full operation, and already it had been of service to their medical staff.

The DEAN (Mr. E. Rock Carling, F.R.C.S.) then read his report, in which he stated that since the last occasion, two years ago, when the prizes gained in the school were distributed, there had been continued progress in every direction. The work of the students, as evidenced in the examinations for which the prizes were awarded and in the examinations of the licensing bodies, had been very good. The arrangement with King's College whereby the earlier subjects of the curriculum were taught by the University continued to work successfully. The conditions which had embarrassed metropolitan medical schools of late years were still in operation, but some measure of relief was confidently anticipated from the labours of the Royal Commission on University Education in London, which was now sitting. In the meantime the school had greatly improved its position and status by the recognition it had obtained from the Board of Education.

Lord ILKESTON, after distributing the prizes, said:

I am glad to have been able to present these prizes to men who will, I hope, become distinguished members of a great profession. When your Dean asked me to perform this duty I was induced, after a little thought, to consent, and that for two reasons. In the first place, during the last twenty-five years I have on many occasions visited Westminster Hospital in order to see sick colleagues of mine—members of the House of Commons—who had been sent here by accident or illness. I also recall several occasions on which, in cases of sudden illness occurring among members of the House of Commons, we were able to have at St. Stephen's the valuable and immediate aid of your resident medical staff.

But there was another reason which made me glad to come here to-day. I have been looking forward to seeing again the keen, bright, eager faces of medical students. It was fifty years last October since I began to teach medical students, and during forty-two years, year in and year out, I was never without a class of students at the Birmingham Medical School. The memories of those happy days crowd back upon me positively with a rejuvenating effect. Forty-two years is a long period in the history of any profession, and much more in the life of a man, and during that time we have seen great changes. Students to-day have a great deal more to learn and a great deal

more to do than when I was a student, and indeed more than was the case during the first twenty years or so that I was teaching anatomy and other subjects. But while you have, on the one hand, enormous tracts of learning to explore and to master, yet, on the other, you have splendid assistance in the shape of improved appliances and methods of teaching. When I compare the modern school with the scanty help that we had in my time—we were practically without a library, and we never saw the other side of the laboratory door except when we made certain chemical tests during the summer session—I marvel at your advantages. Indeed, I sometimes think that too much is done for you and too little left for you to do for yourselves. It is hardship and difficulty that make men, and it would be well perhaps if the struggle on your own part were even a little more strenuous than it is.

But if you have the path made smooth at the splendid medical schools and institutions which are now open to you, you still have a hard and difficult time before you when you start in practice. For although there are many more openings now for medical students than there used to be, and although there are larger opportunities in the public services, the army and navy, and the colonial service, as well as the great public health service of this country, offering increasing chances of useful and remunerative work, and paying more honour and regard to your profession than formerly, yet, after all, general practice is the end and aim of most of you, as it is of the greater number of members of your profession. And general practice is beset with more difficulties and greater competition than ever it was. It is not only in competition with public institutions, but it is threatened—possibly in the near future—with a great State medical service, which is bound, if it is realized according to the dreams of some of our friends, to be a very grave competitor with the ordinary general practitioner.

I look forward with some apprehension lest the prospects of the general practitioner should be vitally injured, for after all he is the backbone of our profession. He is the man I wish to guard and protect in his calling. I trust we may always have with us that noble class of men we have had during my lifetime—men who have done their work among all classes of the community with no hope of great pecuniary reward, although having, perhaps, the greatest of all rewards in the knowledge that their lives are well spent in alleviating the sufferings of others. The general practitioner in his daily work in the community is the representative of the medical profession. He is given the most responsible of all charges—the charge of our loved ones in times of suffering and danger. He enters the home as a friend and not as an official, and I should be sorry to see him replaced by any man acting as an officer of the State, because the attention which a State official can give could never replace the personal devotion of the family doctor.

Students of Westminster School,—Some of you may think my praise of general practice is a little overdone. In your mind general practice may not be an attractive prospect for young men of ability and character like yourselves, and it necessarily entails a large amount of drudgery. Well, be as ambitious as you please, but never be afraid of drudgery, because it is the drudgery in all callings which trains the best men. It is the man who works daily in the sick ward of the hospital, or, what is perhaps still more difficult, in the out-patients' department, who wins the most useful place in his profession. Lectures do not make practitioners. The only way in which you can learn your business effectively is by constant study of disease at close quarters, and therefore the drudgery the general practitioner has to undergo after his student career is often the best possible means of making his life-work more useful and more effective to that end to which the most commonplace medical work is consecrated—the lessening of suffering and the blessing of humanity.

One advantage that you possess at the Westminster Hospital Medical School is that you are closely attached to the hospital during your student career, and it is this attachment which furnishes you with the opportunity of becoming thoroughly practical men. It is by doing the ordinary work, seeing the ordinary cases, learning the common teachings of daily practice that you are fitting yourselves best to become useful, if not eminent, in your profession. In addition to the Westminster School, you are also students of another great institution—the School of Medicine of London. I think of the School of Medicine in London in comparison with the schools of medicine in Paris, Vienna, Berlin, and New York, and I am bound to say that if you searched the world over you could not find a worse organized medical school than that of our own metropolis. Nevertheless, it is the greatest, and in some respects the best, of all the medical schools. Under the conditions of modern civilization we have gathered together in this city the greatest population the world has ever known aggregated in one place, and for that reason it furnishes us with the grandest of all collections of clinical material for the study of medicine and surgery. You have before you the richest of all fields of study. It is your great and inestimable privilege to have the advantages of that school open to you, in order that you may learn all the intricacies of the maladies that affect human kind.

In this great school of medicine I think that changes are impending, and that improvements in it in the future will, through more co-operation and better concentration, give to the whole of the academic side of the teaching of the London School a great impetus. That, I think, will sooner or later be brought about. But I want it brought about mainly in the direction of the academic portion of your teaching. I want your science teaching to be obtained through the best possible teachers, and if London would only concentrate on the effort there is no reason why you should not have the advantage of sitting under the best men in the world. But what I do not want is to see taken away from the hospital a single branch of the teaching it gives at present so excellently in the arts of medicine and surgery. However well your academic teaching may be carried through, it is in the wards and out-patients' rooms of your hospitals that you really learn the daily work of your calling. In 1860, when I was, like you, a student just entering upon the practice of his profession, I was appointed assistant physician in the hospital at Birmingham. Here circumstances forced me, though I was little more than a boy, to do the work of two full physicians. There were about thirty or forty beds in the hospital under my charge, and I had five hundred out-patients a week to see for a considerable period. It was hard work, but it taught me to be a physician, and I owe my success to the hard discipline of doing all that work under the critical eyes of medical students. After all, the critical eyes of medical students are of great help to the man who is doing the work. The students of medicine gave me valuable discipline, as I have no doubt they give their teachers in the present day. I know of no class of men more keenly critical as to the efficiency of their teachers, or more generously appreciative of that efficiency when it is found. Altogether I would say that systematic lectures on medicine and surgery must go; the time for them in their academic form has long passed. Eloquent word-pictures of disease must be replaced by practical demonstrations in connexion with hospital work. Book-learning, laboratory work, and academic lectures are all good in their way, but they can never of themselves make good doctors. To be a physician or surgeon you must learn your work at the bedside and absorb your knowledge day by day in the hospital wards.

And now let me say a few words about the medical school as a help to the hospital. It is a help because it forces every member of the staff to do some teaching. If there were no medical school there would be no compulsion upon the members of the staff to do teaching daily in the wards, and every man who has to teach has to keep on learning. Moreover, each member of the staff has to do his work constantly under the watchful eyes of young critics, who thus insensibly teach their teachers. You are mutually helping one another to make the work of the hospital better, more thorough, more perfect than it would be if you were not brought together in common. In that way the school has a wonderful influence upon the hospital, and, on the other hand, the whole tone of the place and the character of the teaching are raised by the combination. I admit that hospitals where there have been no students have done excellent, and in some cases magnificent, work, especially in connexion with surgery, but I venture to think that it

would have been done even more perfectly if it had been carried out before a clinical class. And it is that clinical class, going round the wards, studying individual cases, questioning the teacher, that makes for the efficiency of the hospital; and the hospital, on the other hand, gives to the medical school the best, and indeed the only, field in which a young man can properly learn the work of his calling.

In conclusion, I want to say a word or two about the school and the public. In these days there are amongst us some people who would remove all connexion between medical schools and hospitals. If this were done, I say that not only would they injure the hospitals to a great extent, but that they would injure the public even more. After all, a hospital like this does the public enormous good, and that in two ways. In the first place, it does good by relieving every applicant that comes to its doors, helping him to bear the ills of life more successfully, often giving him back the best of all blessings in the shape of restored health, and this work of alleviation is reinforced and perfected by the medical school. But, in the second place, the great mass of the public—the public that does not come to your doors—is benefited too. Every rich man in this town who requires the most skilful help of the physician or surgeon to save him can obtain that help through a man who has taught and been taught in the school attached to a hospital. The rich man on his bed of pain and suffering gets better value for his money—to put it on the lowest ground—because there is a medical school, and one which is attached to such an institution as this.

That portion of the public that is called the middle class does not perhaps get as much benefit as the richer class on the one hand, commanding the most skilful and best-educated men in science, or the poorer class on the other, receiving assistance directly at the hospital. Nevertheless, the middle class does receive help from the institution of the medical school and the hospital. It receives it indirectly through the general raising and improvement of the whole tone of medical practice outside the hospital as a result of the combination of medical education with hospital work. In London with our dozen medical schools we are apt to overlook this aspect of the influence of a school, but we have only to go for an example to any provincial town. If we take two towns, one of which has a medical school while the other has not, we shall find that although there may be brilliant and able doctors in both, yet where the school exists we have a body of men who through the daily influence of the teaching work which is going forward are able to raise the profession locally to a pitch of greatly increased efficiency. The fact that students frequent the wards and the class-rooms raises the whole tone of medical practice in that town. In another town where there is no school the stimulus and inspiration which comes from a medical staff employed in teaching is lost.

Therefore the public draws from every medical school immeasurable benefit in the way of help and relief in suffering. I hope that, as time goes on and wiser counsels prevail in the committees and cabinets of Governments, statesmen through one or other of their departments may see their way to bestow public grants more and more upon such institutions as the Westminster School of Medicine. I am confident that grants from public funds or gifts in the way of private benevolence will yield a rich harvest of blessing when bestowed in this direction, and a blessing which will reach and help every class of the community.

A vote of thanks to Lord Ilkeston was proposed by Sir ROBERT HUDSON. Mr. T. F. SQUAREY, Chairman of the School of Medicine Committee, in seconding the motion, said they loyally accepted the decision of the King's Hospital Fund Committee, and, nevertheless, hoped not only to survive but also to flourish.

Sir WILLIAM H. ALLCHIN asked to be allowed to associate himself with the motion.

The vote was suitably acknowledged by Lord ILKESTON.

Canon DUCKWORTH proposed a vote of thanks to the Chairman, which was seconded by Dr. F. DE HAVILLAND HALL.

The CHAIRMAN'S acknowledgement on behalf of the Dean and teachers, as well as himself, brought the proceedings to a close.

LUNACY IN LONDON.

THE Twenty-first Annual Report of the Asylums Committee of the London County Asylums,[1] for the year ended March 31st, 1910, including the medical statistics for the year 1909, shows that on January 1st, 1909, the total number of lunatics chargeable to London County, and lunatics in Metropolitan Asylums Board's asylums and in workhouses, or with relatives and friends, was 26,848, and on January 1st, 1910, 27,003. This gives an increase for the year of only 155 as compared with 678 for the previous year, or with the average annual increase since the year 1890 of 532. Of the total number on January 1st, 1910, 19,914 were lunatics under reception orders (county cases), 6,676 were lunatics in Metropolitan Asylums Board asylums, and 413 were in workhouses or with friends, giving an increase of 198 in the county cases, a decrease of 89 in the Metropolitan Asylums Board cases, and an increase of 54 in those in workhouses or with friends.

It should be said here that the above figures exclude the private patients at Claybury Hall—and, of course, private patients, properly speaking, belonging to London—but include "private list" patients—that is, patients admitted in the first instance as paupers, but who are transferred to the private list on the payment of the bare maintenance rate. Practically, the above furnish a gauge to London pauper lunacy, and for this reason the diminution of the numerical increase is satisfactory. This is further supported by the fall of the ratio of the total pauper lunatics to population from 5.62 per 1,000 on January 1st, 1909, to 5.61 on January 1st, 1910. As bearing on this apparent diminution in the rate of increase of London's lunacy, the Asylums Committee prints a table showing the numbers of applications for beds received, month by month, during the past six years. The monthly average shows a fairly steady fall from 364 applications per month in the year 1904–5 to 314 in 1909–10. These applications, the Committee says, may be trusted to give a general idea of the number of cases of occurring insanity, and the decline seems not to be without importance.

Of the 19,914 county cases remaining on January 1st of this year 19,082 were parish patients at the Manor Asylum, and 2 at the Epileptic Colony, 453 were "private list" patients in various London County asylums, and only 206 were in other county and borough asylums. Practically the whole of London's pauper insane are thus now accommodated in London asylums.

MEDICAL STATISTICS.

Admissions.

On January 1st, 1909, there were 19,440 patients on the registers of the London County Asylums, and on the last day of the year there were 19,823. The total cases under treatment during the year numbered 23,371, and the average number daily resident 19,643.

During the year 3,931 were admitted, as compared with 4,079 in 1908 and 5,289 in 1907. Further, of the total admissions in 1909, 3,449 were direct admissions, as compared with 3,613 in 1908 and 3,558 in 1907. As to the duration of disorder prior to admission, in 1,397 the attacks were first attacks within three, and in 414 more within twelve, months of admission; in 652 not-first attacks within twelve months; in 83 also within twelve months it was unknown whether the attacks were first attacks or not; in 167 the duration was unknown, and in the remainder (733), including 151 congenital cases but excluding 3 not insane on admission, the attacks were of more than twelve months' duration on admission. The proportion of old-standing cases was considerably greater than in either of the two preceding years. The average age on admission was 42.33, as compared with 42.44 for 1905 and 42.56 for 1900, suggesting that the certification of aged persons as insane has passed its maximum—a suggestion which is strengthened by an analysis of the ages at the commencement of the attack, Table B.4 showing that 409 were over 60 years of age when the illness began, as compared with 462 in the previous year, and 98 over 70, as compared with 135 for the previous year.

Turning to the forms of mental disorder, and considering

[1] The Twenty-first Annual Report of the Asylums Committee as to the London County Asylums for the year ended March 31st, 1910. P. S. King and Son, Great Smith Street, Victoria Street, Westminster, S.W. Price 2s., per parcel post 2s. 6d.

only the direct admissions, these were classified as follows: Recent mania, 489, chronic, 62, and recurrent, 165; recent melancholia, 795, chronic, 85, and recurrent, 191; senile and secondary dementia, 155; delusional insanity, 457; general paralysis of the insane, 313; insanity with epilepsy, 209; confusional insanity, 163; insanity with grosser brain lesions, 69; stupor, 39; primary dementia, 35; volitional insanity, 21; alternating insanity, 11; acute delirium, 10; congenital or infantile defect, 177; and not insane, 3. The total general paralytics admitted numbered 334, and formed 8.5 per cent. of the total admissions; while the directly admitted general paralytics formed 9.0 per cent. of the direct admissions. With regard to causation, alcohol was assigned in 684, or 19.8 per cent. of the direct admissions; acquired syphilis in 324, or 9.3 per cent.; influenza in 60; tuberculosis in 34; and other toxins (including congenital syphilis, 24) in 60; critical periods in 604; child-bearing in 123; diseases of the nervous system (including epilepsy, 252) in 442; various bodily affections (of which the principal was cardio-vascular degeneration, 294) in 528; bodily trauma in 137; and mental stress in 882. An insane heredity was ascertained in 898, or 26.0 per cent.; an epileptic heredity in 110; a neurotic heredity in 46; one of eccentricity in 18; and an alcoholic heredity in 263, giving a combined total of neuropathic hereditary factors in 1,335, or 38.7 per cent. Also congenital mental defect was assigned in 263, and eccentricity in 21.

The above statistics refer to the whole number of the asylums, but a reference to the individual reports of the several medical superintendents shows wide differences both with regard to the classification of the admissions according to the forms of mental disease and with regard to the proportions assigned to the separate etiological factors, the reason for these differences lying evidently in the personal views of the various observers who investigate the cases. Accepting, however, these statistics with the reservation which this calls for, they show that in London, as one would expect, alcoholism and syphilis play a more important rôle in the causation of insanity than in the country generally, with, in consequence, a high proportion of general paralytics. An interesting table (B. 9) shows, with regard to the general paralytic direct admissions, that in 7 the attack began under 25 years of age, in 74 between 25 and 34, in 132 between 35 and 44, in 66 between 45 and 54, in 19 between 55 and 64, and in 15 the commencement of the illness was unknown. Also 164, or 52.3 per cent. of the total 313, paralytics furnished positive evidences of syphilis. Another interesting fact brought out by this table is that, of the 313 general paralytics, 249 were or had been married, and that of the 164 with positive signs of syphilis, 131 were or had been married.

Discharges, etc.

During the year 1,223 were discharged as recovered, giving a recovery-rate on the direct admissions of 35.46 per cent., or of recoveries in the direct admissions on the direct admissions of 33.54 per cent. Also 398 were discharged as relieved and 182 as not improved. Cases of recent or recurrent mania and recent or recurrent melancholia naturally furnished the greater bulk of the recoveries, but we see that there were also discharged as recovered 6 cases of general paralysis, 27 cases of systematized delusional insanity, and 18 cases of senile or secondary dementia.

During the year also 1,745 died, giving a death-rate on the average numbers resident of 8.88 per cent. In 555 the deaths were due to diseases of the nervous system, including 363, or over 20 per cent. of the total deaths, from general paralysis; in 154 to heart disease, and in 106 to diseases of the blood vessels; in 81 to respiratory diseases; in 34 to diseases of the digestive system; in 63 to diseases of the urinary system, mostly chronic Bright's disease; in 4 to diseases of the generative or locomotive systems and diseases of the skin, in 140 to senile decay, in 4 to suicide, and in 603 to general diseases, including 74 from carcinoma, 37 from dysentery, 122 from bronchopneumonia, 79 from lobar pneumonia, and 203, or 11.5 per cent. of the total deaths, from tuberculous diseases. As both principal and contributory cause of death, however, tuberculosis existed in 278, or 15.93 per cent. of the total deaths. Of the total 1,745 deaths, as many as 614, or 35.19 per cent., were in-patients over 60 years of age, and of these 281, or 16.10 per cent, were over 70 years of age. Of the number of patients remaining in the asylums at the end of the year, 24.15 per cent. were suffering from senile or secondary dementia, 2.46 per cent. from general paralysis, 9.65 per cent. from epilepsy, 14.55 per cent. from chronic mania, 8.93 per cent. from chronic melancholia, 8.71 per cent. from systematized delusional insanity, and 1.972 from non-systematized delusional insanity. Of this large mass of lunacy, only 2.49 per cent. were considered to offer a favourable prospect of recovery, in the rest the outcome being deemed either doubtful (6.48 per cent.) or unfavourable (91.03 per cent.).

THE PATHOLOGIST'S REPORT.

The report of Dr. F. W. Mott, the Director of the Pathological Laboratory and Pathologist of the London County Asylums, consists very largely and—on account of the great amount of research work carried on at the Pathological Laboratory—of necessity of a simple catalogue of the important investigations made either by him or his coworkers in the laboratory, and published or being prepared for publication in the *Proceedings of the Royal Society* or other scientific publications. A tabular statement of the *post-mortem* findings at Claybury Asylum is given and the usual statistics relating to pulmonary tuberculosis and dysentery in the London County Asylums. With regard to the former of these two, out of 1,635 deaths in London County Asylums 1,471 necropsies were made. Active pulmonary lesions were found in 14.95 per cent. of the number of necropsies. Dr. Mott says that this proportion does not show much variation from year to year. With regard to dysentery and diarrhoea, from March 1st, 1909, to February 28th, 1910, there were 223 cases of dysentery and 250 cases of diarrhoea among the patients in the London County Asylums, as compared with 268 and 540 respectively for the previous twelve months. Nearly all the asylums reported a reduced number of cases.

HEREDITY IN RELATION TO INSANITY.

For some time Dr. Mott has been engaged in the collection of cases in the London County Asylums in which two or more patients are related to one another. Up to the time of publication of the report, Dr. Mott had obtained particulars of 1,834 such cases. These were made up from 854 families as follows: Two instances of 6 of a family; 3 instances of 5 of a family; 12 instances of 4 of a family; 85 instances of 3 of a family, and 752 of 2 of a family. In order to obtain an independent opinion the records were handed to Dr. Edgar Schuster for analysis. Briefly, Dr. Schuster's results were as follows: Periodic insanity, delusional insanity, mania and melancholia all showed a distinct correlation between parents and offspring and a stronger correlation between members of the same co-fraternity; that is, that where parents and offspring are insane there is a greater likelihood of the offspring showing the same form of mental disorder as their parents than any other form. Dr. Schuster's material, so far as dementia praecox and imbecility are concerned, was too meagre for any definite conclusions, but with regard to general paralysis no correlation between parents and offspring or between members of the offspring could be deduced. Dr. Mott says, further, that there is a great tendency for children of the same parents to become insane at the same period of life, and also that there is a much greater incidence of transmission from parents to offspring through the female than through the male side.

Cost.

The total net weekly cost per head for patients maintained in London asylums during the year ended March 31st, 1910, was 10s. 0.34d.

THE total church collections for the Birmingham Hospital Sunday Fund amounted this year to £4,128 0s. 2d. and the special donations to £2,011 13s. 10d., making £6,139 14s. One-third of the net amount of the general collection was given to the General Hospital, one-third to the Queen's Hospital, and the remaining third was divided among the other charities participating in the fund. The special donations were handed over to the institutions for which they were intended.

SCIENCE NOTES.

THE strange "growths" observed in mineral substances under osmotic pressure have not been greatly studied in this country, although we believe that Professor Crum Brown once showed some examples before the Royal Institution. Dr. Stéphane Leduc of Nantes, however, has been making a long series of researches on this subject, and his British collaborator and translator is Mr. W. Deane Butcher, M.R.C.S., who lectured on the topic before the Roentgen Society on December 1st. In the course of his lecture Mr. Butcher showed what he called his "osmotic window-garden," consisting of the curious "growths" obtained within a few hours under special conditions by placing certain mineral substances in solutions. Calcium chloride, although free from any trace of germ or organic matter and uninfluenced by radio-activity, would "grow" if it were dropped into a solution of sodium silicate which also had been sterilized by heating. Within a few moments, with a peculiarly jerky motion, it would put forth a stem, not unlike in shape and structure the stem of a tree, and this, on reaching a layer of solution of less density, would project branches and even something approximating to the appearance of leaves. An extraordinary variety of "growths" could be obtained under different conditions. Some of them were mineral mushrooms, hardly to be distinguished in appearance from the organic fungus; others, when nitrate was employed in solution, showed a curious spiny projection; others, again, simulated the sea shell. In Mr. Butcher's opinion, when the calcium chloride was dropped into the sodium silicate solution, the water tore apart some of the calcium chloride molecules, and, the ions being set free to roam through the gas, a precipitate was formed with the ions of the silicate. The osmotic force by which these things "grew"—"osmose" meaning a "push" or "thrust"—was identical with the pressure which drove the blade of grass through the sod and lifted the sap to the topmost twig of the tree. He thought that there was seen here something of the mechanism which Nature employed in growth. He showed a number of the ringed and other deposits obtained by liquid diffusion to illustrate how closely natural appearances, even the markings and colours of a butterfly's wing or a peacock's tail, could be simulated when chemical substances were employed similar to those found in the organic structure. Haematin, for instance, in certain solutions, gave an appearance closely resembling blood corpuscles. Osmotic pressure, he maintained, was gaseous pressure in disguise. It showed the same volume and temperature relationships as gaseous pressure, and had the same absolute value. Imprisoned atoms could be set free either by reheating or dissolving. In the former case their rush for freedom produced vapour, and, in the latter, osmotic pressure. A vigorous discussion followed the lecture, and several physicists present expressed astonishment at the light-hearted manner in which it had been suggested that these things were living simply because they resembled the appearances of living things. Mr. Butcher replied that he did not introduce them as finished living organisms, but only as illustrations of the rough machinery which Nature employed in the work of growth.

Henri Piéron, in the *Revue générale des sciences* for September 15th, has a long article on the origin of the slave-making and parasitic instincts of ants. He deals only with the facts such as we know them, and reserves for a later contribution the discussion of the theories advanced to explain these curious instincts. The subject of ants is a favourite theme of writers on natural history, and many of the wonderful stories told of them are familiar to everybody. Piéron has set himself the task of collecting and summarizing these numerous scattered observations, and endeavouring to trace through them some evolutionary order. The first point he takes up is the founding of new colonies. This is in many cases the special and exclusive work of the females. The methods employed are of very varied complexity. In what may be regarded as the simplest cases the fertilized female is entirely responsible for the founding of the colony. By her own unaided efforts she digs out a nest for the reception of her eggs. She has to seek her own food throughout this time, but she lives to a large extent on the histolysis of her own body muscles, for, after the nuptial flight, the wings are of no further use, and the large alar muscles are absorbed. Another method, more advantageous to the female, is that of founding a new colony in an already existing nest. This practice is followed by a considerable number of species. Certain species do not go so far as this, but are content to establish their nest in the immediate neighbourhood of a nest belonging to an allied species. This is the case with the tiny *Solenopsis fugax*, which builds its nest around that of *Messor barbatus*. It very cunningly, too, bores passages into the nest of its large neighbour and steals its provisions. *Messor* is too large to get into the passages, and so the robbers escape. Usually the nest taken possession of by the female is an abandoned one, but occasionally she is received into a nest still fully occupied. Sometimes the original inhabitants quit; in rare cases they continue to live symbiotically with the new colony. The third method of founding a colony is by aid of workers of the same species, either belonging to the same nest as the female comes from or more usually to another nest. A fourth method calls in the aid of workers belonging to a different species. The female is actually adopted by the latter and made their queen; this is quite a common occurrence amongst American ants, and is universal in such species, of which there are a number, in which there are no workers. The fifth and last method is the most remarkable of all. The female enters a foreign nest, kills or puts to flight the queen and workers, and takes possession of the pupae. When these develop into workers she makes them her slaves. A colony having been founded by a queen in one or other of these diverse ways, its perpetuation rests chiefly in the hands of the workers. On them devolves the duty of procuring food, of caring for the queen, larvae and pupae, and a dozen other different things. In a large number of cases the workers perform each and all of these multifarious duties without any division of labour. In certain species some are differentiated as soldiers for attack and defence. When the queen has founded a colony in a foreign nest, the workers treat her exactly as they would their own queen, and devote themselves to rearing her progeny. As the latter grow older the original workers gradually disappear. In the meantime, however, the nest is inhabited by a mixed colony. Curiously enough the offspring of the queen not infrequently show a tendency to carry off the larvae and pupae of the species which has nursed them, and so add to the numbers in their own nest. This occurs more particularly when the nest is not sufficiently populated. In many mixed colonies the two species live entirely separate, but one may be dependent on the other for its sustenance. From this the step to complete parasitism is not far, and many cases are known where one species takes up its abode with another, and lives entirely by the efforts of the other. This may be a matter of compulsion, for several species consist wholly of soldiers, who, although incapable of doing ordinary work, may compel the workers of another species to work for them. Species in which no workers occur and all the individuals are sexual have of necessity to become parasitic on other species, and many interesting observations have been made on the various ways in which they treat their hosts. It is impossible, however, in a short space to give details of their various habits, and we have merely attempted to indicate the method in which Piéron has treated a marvellously fascinating study.

THE late Mr. C. H. Leaf left estate of the gross value of £20,682 with net personalty £20,392.

THE long-expected order amalgamating the judicial offices of Masters in Lunacy and the offices of Commissioner in Lunacy was issued by the Lord Chancellor at the end of November. The amalgamation was recommended by the Royal Commission on the Care and Control of the Feeble-minded, which reported rather more than two years ago. This was one of the transitory measures recommended by the Commission, but another linked with it—the appointment of two medical commissioners to the amalgamated office—has not yet been carried out. We believe there is no doubt that this addition is urgently needed.

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SATURDAY, DECEMBER 24TH, 1910.

SECURITY OF TENURE FOR MEDICAL OFFICERS OF HEALTH.

THE General Order of the Local Government Board, dated December 13th, 1910, prescribing regulations with respect to medical officers of health and inspectors of nuisances appointed by urban and rural sanitary authorities in England and Wales, outside London, endorses, though in a hesitating, half-hearted fashion, the policy which has been advocated by the British Medical Association consistently and persistently for many years past. The Order is accompanied by a memorandum and circular letter, and certain discrepancies between these documents and the Order itself seem to argue some haste in the preparation, or at least in the final revision.

Until a comparatively recent period the Board has maintained that medical officers of health and inspectors of nuisances must be appointed for a specified time, and there are cases on record of the Board's refusal to sanction an appointment without reference to time, even when an authority desired to appoint an officer on these terms. This position can no longer be taken up, for Article IV of the new Order provides that the appointment may be made without limit of time, and by Article IX an officer so appointed cannot be removed from office except by the Board or with the Board's assent. But the position to which health officers have taken most exception, and which many of them have felt to be intolerable, was the fact that, being elected for a limited period, their periodical re-election might be made the opportunity by interested members of the electing body whose insanitary property had perhaps been adversely reported upon, to oppose the re-election. The principle of electing any public official for a limited period, at the termination of which he may automatically cease to hold office without any reason being assigned, and without even a day's notice that his services are to be dispensed with, is so unjust and altogether so opposed to public policy that it is extraordinary it should have survived as long as it has. It is to be regretted that the Board has not had the courage to abolish entirely this anomalous position and give to medical officers of health outside London the same security as that which has been given to those within the metropolitan area, to those in Ireland and Scotland, to county medical officers of health, and to Poor Law medical officers in England and Wales and in Ireland. Article X of the Order, however, goes some way towards bettering the position, for it does away with the necessity for periodical re-election. It provides that if a sanitary authority desires to remove a medical officer of health or inspector of nuisances from office, three months' notice shall be given to him, the notice expiring at the termination of the period for which he was elected. If no such notice is given he will continue in office from year to year until he dies, resigns, is proved to be insane, or is removed by the Board or with the Board's assent. Instead of an automatic lapsing of the appointment there will thus be an automatic re-election without the necessity for the formal resolution of the electing authority which is now requisite, or, so long as the terms of the appointment remain unaltered, without any further approval of the Board. This is not enough, and does not satisfy the aspirations of the British Medical Association; but it will, at any rate, ensure publicity, and, it may be expected, inquiry by the Local Government Board, for the obligation has been placed on the authority to inform the Board when notice has been given to an officer to terminate his appointment, and it may be assumed that in the intervening three months before its expiration inquiries would be made as to the reasons which had led the authority to tender the notice. Article XI authorizes an authority at any time by a resolution, and with the consent of the Local Government Board, to appoint an officer who holds an appointment for a specified term to hold the office without limit of time. Article XIII provides, as would appear to be reasonable, that where any change in the extent of the district of an officer, or in his duties or salary, is deemed necessary by the authority or by the Board and he declines to acquiesce, the authority, with the consent of the Board, may give the officer six months' notice to determine his office.

Section 191 of the Public Health Act, 1875, gives to the Local Government Board the same power with regard to the tenure of office of a medical officer of health whose salary is paid out of moneys voted by Parliament as it has in the case of a district medical officer of a Poor Law union. The Board exercised its power with regard to Poor Law medical officers who reside within their districts by making an Order, dated May 25th, 1857, providing that they could only be removed from office by the Board or with the Board's consent. It has always been contended by the British Medical Association that the Board could make an identical Order with regard to medical officers of health, but apparently some of the permanent officials of the Board were not of this opinion. At an interview some years ago between the present President of the Board and a deputation from the Association, the view of the Association was strongly asserted, and Mr. Burns, who admitted that it was an aspect of the question which was new to him, undertook to give it his consideration. The terms of the Order and Memorandum appear to show that the opinion held by the Association has had some weight with the Board, though it has failed fully to carry out the principle involved. The new Order may, we hope, be taken as an earnest of stronger action in the near future.

DEPARTMENTAL LEAD INQUIRY AND MINUTES OF EVIDENCE.

IN Volume III of the Reports of the Departmental Lead Committee[1] is collected information upon plumbism from medical men and technical chemists, factory inspectors, manufacturers and

[1] Report of the Departmental Committee appointed to inquire into the Dangers attendant on the Use of Lead, etc., in the Manufacture of Earthenware and China. Vol. III. Minutes of Evidence. Messrs. Wyman and Sons, Fetter Lane, E.C. Price, 4s. 9d.

practical potters, which make this part of the report a valuable contribution to the literature of industrial lead poisoning. Owing to the wide terms of the reference to the committee it was hardly to be expected that there would be unanimity among the witnesses any more than that the views held by the members of the committee would be identical. An attempt has been made to obtain uniformity out of variety. No one can read through the 500 odd pages of evidence without being struck by the distinct advance which has taken place in the hygienic conditions of pottery manufacture during the last few years. Much of the ill health of present-day workers is attributed by some of the manufacturers to the ignorance of employers of the past and to the fact that twenty years ago and less boys of 9 years of age were employed in the potteries in carrying heavy weights. Although we have travelled far since those days many hardships are still imposed upon young workers. One of the lady inspectors of factories stated that she had noticed boys and girls carrying heavy wedges of clay and trays of scrap far beyond the ability of the children. A boy of 13, who himself only weighed 63 lb., was found carrying a wedge of clay 70 lb. in weight. It is these inhuman acts which rouse public opinion. The loading of youths, especially young girls, with such burdens can hardly fail to produce deformity of the bony framework, the effects of which may be serious in days to come. The inquiry has, therefore done much good by showing up defects to which it can only be necessary to draw attention to ensure their remedy, but there is still in many works an absence of that sympathetic consideration for young persons which factory legislation has tended to bring home to employers a responsibility which cannot be ignored.

As one of the results of the operation of the Workmen's Compensation Act, it is stated by an employer that the number of cases of sickness has increased 12 to 20 per cent., and that to insure the workpeople insurance offices require a disproportionate amount of the wages paid to the workers. The attempt by the employers to form an insurance fund, on the recommendation of Lord James of Hereford, was not carried to a successful issue, largely because they were not sufficiently united. Under present arrangements workers in potteries, if suspended, receive one-half of their wages in compensation, or, if removed from a particular job and given other employment, one-half of the loss of wages has to be made up to them. This circumstance creates an anomaly between compensated workmen and the gang of persons engaged in the same kind of occupation.

The *pros* and *cons* of leadless glazes are discussed at considerable length, and, while there is general agreement as to the value of lead in the glazes as a flux, there can be observed, in reading between the lines of the report, not only indications of a desire on the part of the committee to obtain all possible information upon the subject, but the wish to see lead glazes reduced to a minimum and abolished wherever possible. Where so many witnesses have given evidence it would be idle to single out for approval or otherwise the information supplied by one or other, since the object of the inquiry was to obtain information from a variety of sources, in the hope that out of plurality of opinions helpful data would be obtained which might become a basis of useful recommendations.

In the recommendations made by the committee are included periodical medical examination of the workers, the keeping of a register of persons examined by the certifying surgeon, the supply daily of half a pint of milk or of cocoa made with milk to women and young persons at the expense of the occupiers, increased washing facilities, and the use of a solution of soluble sulphides to remove traces of lead from the hands, exclusion of women under 45 years of age from the most dangerous lead processes, forty-six hours of work per week for women and young persons, forty-eight for men, and fifty-four for glost-placers, an interval after each four and a half hours of work, constant supervision of the factories by the occupiers themselves to see that the regulations are being carried into effect, while a similar duty is required of the operatives. For the prevention of industrial lead poisoning there must be co-operation of employers and employed.

KING EDWARD'S HOSPITAL FUND.

An account of the distribution meeting of King Edward's Hospital Fund for London, which took place last week, will be found in the SUPPLEMENT to this week's issue. It was the first which has been held since the constitution laid down for the Fund last year came into full operation. His Majesty King George, formerly President of the Fund, is now its Patron, the post which he formerly occupied being now held by three Governors—the Duke of Teck, Lord Iveagh, and the Speaker of the House of Commons. In accordance with the terms of the private Act applying to the Fund, they were appointed by His Majesty on the nomination of the Prime Minister, the Lord Chancellor, and the Governor of the Bank of England. Another point of interest is that this year the Fund has distributed £5,000 more than the total amount that at the date of its foundation it was hoped the Fund would ever be able to distribute in one year—namely, £150,000. No departure in policy was announced, unless it be the award made to certain sanatoriums for holding a certain number of beds at the disposition of London hospitals which have cases of pulmonary tuberculosis in a curable stage on their hands. If the plan works well, it is proposed to make in future years capital awards as well as maintenance awards, so as to facilitate the provision of more accommodation for such cases. One announcement, however, of great interest was made. This is, that in accordance with a suggestion made by His Majesty, when Prince of Wales and President of the Fund, a special committee is to hold an inquiry into the methods prevailing in the London voluntary hospitals with regard to the admission of patients to the casualty and out-patient departments, and especially as to the precautions taken to prevent the admission of persons who are unsuitable. The committee will also inquire whether adequate provision is made for the admission of suitable persons. It consists of Lord Mersey, better known until recently as Mr. Justice Bigham, Lord Northcote, until recently Governor-General of the Commonwealth of Australia, and the Bishop of Stepney (Dr. H. Luke Paget, a son of the late Sir James Paget). The committee may therefore be considered a strong committee, although we think it would have been strengthened by the addition of a member of the medical profession having personal experience of the working of out-patient and casualty departments. In appointing a body of laymen, however, the Fund has followed what is a very general custom in the conduct of affairs in this country, and it would appear to be

intended that it should receive evidence, for we are informed that all communications intended for the committee should be addressed to the secretary, Mr. H. R. Maynard, King Edward's Hospital Fund for London, 7, Walbrook, E.C. It is anticipated that the committee will begin its sittings early in February.

RULES FOR NURSING ASSOCIATIONS.

THE sick have derived great advantages from the institution of district nurses, while the skilled attendance has been highly appreciated by the medical profession in many districts, both in town and country, but, like every other human necessity, such associations, established with the very best intentions and capable of doing most admirable work if the nurses are strictly confined to the proper spheres of their duties, have in some cases developed defects which have given rise to friction. The nurses have not always been judicious and the rules of the association have not always been drawn with a sufficient knowledge of possible pitfalls. A debate on the subject took place at the Representative Meeting of the British Medical Association this year. It arose on a report from the Council submitting a set of model rules for nursing associations. These rules, as finally approved by the Representative Meeting to take the place of those adopted by the meeting in 1909, are published in the SUPPLEMENT of this week. They will, we make no doubt, be of great service to nursing associations and of assistance to medical men who may be called upon to co-operate with such associations or advise as to their constitution and administration. A memorandum on a question of alleged covering in connexion with a district nursing association embodying a letter from the Assistant Secretary of the General Council of Medical Education indicates one of the dangers which may arise, and which ought always to be guarded against in the rules adopted by a nursing association.

INHERITANCE AND INFECTION IN CANCER.

DR. MUNCH SOEGAARD, of Norheimsund, in Norway,[1] has endeavoured to solve the question of the etiology of cancer by a careful study of the cases which have arisen during the twenty-three years, 1886–1909, in a village called Vikör, of some 3,400 inhabitants. Following the lead given by Dr. Bashford, of the Imperial Cancer Research Fund, he limits himself to persons who have died after having attained the age of 35 years. In the period named 703 persons of this age died from all causes, and of these 64 were said to have died of cancer. This represents a cancer mortality of 9.1 per cent. of the total mortality. It may be pointed out in this place that Dr. Soegaard does not in any instance record a histological confirmation of the diagnosis, and in determining the occurrence of cancer in the families he is apparently quite satisfied with the statement of doctor or patient's relatives that the mother or some other relative died of cancer. The value of his deduction is therefore greatly impaired, because we cannot be quite sure that the reported cases were in reality cases of cancer, and further that the negative cases did not contain some cases of carcinoma or sarcoma. In the families of these 64 patients he found that 10 parents had likewise died of cancer. Since some of the patients were brothers and sisters, he states that the whole series descended from 114 parents. Four of these died under the age of 35 years, and 4 are still living, thus yielding 106 persons among the parents who died over the age of 35, with 10 cancer deaths, that is, 9.35 per cent. Next he turns to the brothers and sisters of the patients. On inquiry he found that there were in all 250 brothers and sisters. Of these 100 had died after having attained their 35th year and 11 of them died of cancer, representing a somewhat higher percentage than the whole population yielded. He attempts to explain this by referring to four families, in which cancer appears to have been somewhat common. But since the total number of the cases with which he deals is so small and the possibilities of error are so large, it is unnecessary to follow up his cases any further in respect to inheritance. We may, therefore, register the verdict with regard to this account as "not proven." The author is more interesting when he deals with so-called "cancer à deux." But here again it is wise to exercise a sharp criticism on his article, for the words employed would imply a preconception—a deduction before the case is stated. He calls the cottages in which some of the patients lived and died, "Krebshöfen," or cancer cottages. His observations lead him to summarize that in 18 out of 68 cases the cancer patient had lived in intimate contact with another cancer patient. The cottages or "Höfe" are described in vivid colours, and certainly appear to be veritable insanitary nests, in which infection might readily occur. But where overcrowding and other evils are found, it must be assumed that other factors of a deteriorating type must also prevail, and the mere occurrence of cancer in several persons living in these hovels does not prove infection. In the same way, when he tries to prove infection by citing the experience that those persons who left the neighbourhood to live elsewhere escaped from the ravages of the terrible malady, while those who remained at home were more or less attacked, it must be emphasized that other factors have to be taken into consideration, of which the mode of feeding, the habits with regard to irritation and local stimulation, may be instanced. Again, it is inconceivable that one infection should at times produce carcinoma, at other times sarcoma, and at still others rodent ulcer. Dr. Soegaard records cases of all three arising in one and the same environment. In attacking Dr. Bashford's deductions that the absence of infection in his mice speaks against any risk of infection, the author regards the conditions obtaining in his Norwegian village as favourable to infection, and those obtaining in the Imperial Cancer Research laboratories as unfavourable. To this proposition exception must be taken. In the former case innumerable factors may be playing a part, and the results obtained are uncertain, since histological confirmation of the diagnosis is wanting; while, in the latter, contact is present and other factors are to a great extent excluded, and scientific investigation of each tumour enables the observer to be certain of every record.

[1] Reprint from the *Norsk Magazin f. Laegevidenskaben*, October, 1910.

THE ACTION OF BLEACHING POWDER AS A DISINFECTANT.

IN a lecture given recently at the Manchester School of Technology, Mr. R. L. Taylor detailed some valuable conclusions, reached as the result of several years' investigations of the action of air and carbon dioxide on bleaching powder, the ordinary calx chlorinata of the *Pharmacopoeia*. The conclusions are interesting as showing that some modification is needed in the ordinary teaching as to the chemical reactions that occur when calx chlorinata is simply exposed to the air and moisture, as in disinfecting the

atmosphere of sick rooms, without the addition of mineral acids. It is recognized that some doubt exists as to the exact composition of calx chlorinata, for though it is said to contain both calcium chloride and calcium hypochlorite, it is noticed that fresh bleaching powder is much less deliquescent than one would expect if it contained any considerable proportion of calcium chloride. Moreover, though calcium chloride is freely soluble in alcohol, if fresh, well-made bleaching powder is shaken with alcohol, very little residue is left when the alcohol is separated and evaporated, showing that there can only be a very small proportion of the chloride present in the dry powder. It seems to be probable that when chlorine gas is passed into slaked lime, a body is formed with the formula $CaCl_2O$, which only forms $CaCl_2$ and $CaCl_2O_2$ when the powder is dissolved in water, as shown by the equation $2CaCl_2O = CaCl_2 + CaCl_2O_2$. It has generally been stated that when bleaching powder is exposed to moist air, free hypochlorous acid gas is slowly given off, which soon breaks up into free chlorine, chloric acid and water, while the chloric acid being very unstable soon breaks up into oxygen, chlorine, water, and perchloric acid, the final result being that the small amount of hypochlorous acid given off yields about fourteen-fifteenths of its chlorine in the form of chlorine gas. Mr. Taylor claims to have shown that the action of carbon dioxide in the air on bleaching powder is to liberate chlorine only, with no hypochlorous acid, the carbon dioxide acting just like any other acid, and decomposing both the hypochlorite and any chloride contained in the bleaching powder. His researches further show that ordinary moist air liberates, even at first, a large amount of free chlorine and only a very small amount of hypochlorous acid, while after a time nothing but free chlorine is produced. And if ordinary air is passed through a solution of bleaching powder, a mixture of chlorine and hypochlorous acid is swept out, at first in about equal amounts, but later the free chlorine is increased to about 90 per cent. Mr. Taylor concludes that in the ordinary processes of bleaching the active agent is probably free chlorine, any hypochlorous acid playing only a very minor part, and the same would seem to apply when calx chlorinata is used without a mineral acid for disinfecting purposes.

HOW HIGH CAN THE RECTAL TUBE BE PASSED?

THE student is certain, when he has reached the position of dresser, to hear disputations about the passage of tubes up the bowel, and the house-surgeon soon finds by practical experience that there is some difficulty in settling this question. To his dying day the qualified doctor usually maintains either that he has often succeeded in passing a stiff or soft rectal tube a foot or more up the colon, or else that neither he nor anybody else can pass either variety of that instrument for more than a few inches up the rectum. Dr. Wellington Yates,[1] as the result of some researches well worth study, is entirely of the latter opinion, which is that of Nothnagel, Naunyn, and Boas. Schule, too, denies Kuhn's assertion that a metallic spiral spring could be passed into the colon by combined manipulation of the sigmoid. Von Aldor, as Dr. W. Yates reminds us, advised the use of a 32-inch tube in the treatment of colitis, and prepared skiagraphs to prove that he had succeeded in passing such a tube, but Yates finds that faulty technique in the preparation of the pictures rendered them valueless for proof. Von Aldor repeated his assertion in a second publication, declaring that fluid introduced into the rectum alone, and without the use of the long tube, never goes higher in normal individuals. Dr. Yates maintains that the truth is, as experiment proves, absolutely in the contrary direction, as fluids can be passed well up into the colon when the tube is only introduced a short distance into the rectum. Soper and Hanes have insisted that within the past two years they have proved by skiagraph that fluids pass easily whilst tubes cannot pass at all into the colon. Dr. Yates publishes some highly successful skiagraphs which confirm Soper and Hanes's views. They show the tube turning round on itself as it passes up to the sigmoid, although it seems to the surgeon's or nurse's touch as though it were gliding easily up the descending colon. They demonstrate the fallacy of the "horse catheter" or coiled wire spring. Yates used every different type of flexible instrument, and never was able to prove by skiagraph that he had passed any of them into the colon, in whatever position the patient was placed and whatever manipulations were em ployed. By manipulations he means such as are adopted in the general treatment of patients to whom enemata are administered—change of position, for example; but Yates purposely excludes experiments with special instruments like that of Hanes, another sceptic, who was able in one instance to pass the tube beyond the hepatic flexure, but only with the aid of a sigmoidoscope after the patient had been placed in an inverted position. But the experimenter might have been mistaken, and in general treatment the sigmoidoscope is not always either available or necessary. Yates shows, very reasonably, that the anatomy of the rectum, sigmoid flexure, and colon explains how the tube cannot be passed far upwards. The lowest part of the rectum is fixed, its course is curved, and its upper portion mobile; the mesosigmoid is long, and permits free movement. This last fact explains why many surgeons have been confident that stiff instruments have passed into the colon, when in reality the bowel was pushed forwards, and the instrument never passed into its lumen. Yates refers to another error, familiar to us all, yet treated as a truth by at least one writer. When the tube is passed, if water be thrown up it during its passage, the surgeon or nurse, it is believed, can ascertain with certainty that the tube has entered the colon. The truth is that when the tube bends so that its upper end points for an inch or more downwards, the enema will pass upwards out of its eye with perfect facility. The prejudiced experimenter will, in these circumstances, retain the erroneous impression that the tube, as well as the water, has passed high up the bowel. The sole object of all these attempts to pass the tube as high as possible is the conveying of fluid direct into the upper colon for ablution or food absorption. Yates shows, first, that the tube cannot be passed far, and, secondly, that fluids on the other hand if injected 4 or 5 in. above the anus are carried up into the colon, and may be detected at the caecum in about ten minutes. Yates's skiagraphs show, as we have already noted, the tube doubling back on itself below the sigmoid, and they also display how a quart of bismuth mixture injected into the lower rectum could be defined occupying the entire colon and also the caecum. Hence the introduction of a tube for more than 5 in., for therapeutic enemata or irrigation of the bowel is useless and likely to defeat its own object. Yates believes that a reversed peristalsis is set up when fluids are injected into the rectum, and as a surgeon, he further insists that attempts to effect the impossible with the tube cause irritation of the

[1] Present State of the Colon Tube. *Amer Journ. Obstet.*, November, 1910, p. 761.

intestinal mucosa if not worse effects. An instructive discussion followed the reading of Dr. Yates's report at the last annual meeting of the American Association of Obstetricians and Gynaecologists in September; and the author's skiagraphs, published in the *American Journal of Obstetrics*, were much appreciated. The anatomical researches of Hanes of Louisville, especially his observations of the variation in length of the sigmoid colon, were referred to by a collaborator, Dr. Garland Sherrill, and deserve the consideration of the surgeon.

CANADIAN WATER SUPPLIES.

THERE was held in Ottawa in October last, at the instance of the Committee on Public Health of the Senate of Canada, a conference between Dominion and provincial public health representatives and the Committee on Public Health of the Commission on Conservation. At that conference Dr. Charles Hodgetts, the medical adviser to the Commission, delivered an instructive and exhaustive address upon the water supplies of Canada, with special reference to the manner in which they are polluted by sewage, etc. After describing the chief sources of water supply in the Dominion as coming from the lakes and rivers, he stated that it was now almost the general rule to consider that a continued typhoid death-rate of over 0.2 per 1,000 of the population was an indication that the public water supply was greatly at fault. He then gave typhoid statistics relating to a large number of cities in Canada and in the United States and to European and American countries as a whole. The United States death-rate from typhoid fever he gave as 0.46 per 1,000, the Canadian as 0.35, and that in England and Wales as 0.11 per 1,000. He summarized the laws in force in the various Canadian provinces relating to water supplies, and then expressed the opinion that, though they looked well on paper, they were in the main non-efficient, for in practice municipal authorities did pretty much as they pleased. The great difficulty in securing the great waterways of Canada from pollution appears to be the fact that they flow not only through parts of the Dominion which are under different legislative control, but in the case of the chain of the St. Lawrence and the Great Lakes the waterway forms an international boundary. Dr. Hodgetts maintained, therefore, that the difficulties to be met would not be solved by provincial legislation, but that the Federal Government would have to deal with them. The question is one of the greatest importance to the inhabitants of Canada.

FORCIBLE DILATATION OF THE SPHINCTER ANI.

NOT a few things which are taught to the student of medicine rest on no solid basis of fact. Even in examinations, stereotype replies to questions are insisted upon, in spite of the fact that the examiner or the teacher would have difficulty in justifying the answer expected. The most usual subterfuge in such cases is the statement that experience teaches that "it is so." From time to time the correctness of these inherited views is challenged, and then two schools take up opposed opinions: the one denying the truth of the older doctrines, and the other stoutly defending the messages from the past. A typical instance of a doctrine based upon slender foundation, yet transmitted through generations of medical students, is that the infectivity of scarlatina is derived from the desquamated skin. From the *Muenchener medizinische Wochenschrift* of September 20th we learn that Dr. E. Melchior, working in the Breslau University, has challenged a firmly-rooted doctrine in surgery. It is generally accepted that the sphincter ani is so long-suffering a muscle that it is satisfied to perform its functions satisfactorily in spite of any kicks which it may receive from the "rectal" surgeon. Cut the fibres radially or dilate the ring muscle with as much force as you like, and after a short-lived paresis, the full tone of the closure will return. Dr. Melchior has already called attention to the frequency with which permanent loss of control ensues after division of the sphincter with the knife. He has now investigated the condition of all patients who were subjected to forcible dilatation of the sphincter during the period 1905 to 1909 at the Breslau Clinic. He found 8 cases of fissure which were treated by dilatation alone, and 25 of haemorrhoids in the treatment of which dilatation was carried out. Of these, 6 of the first class and 20 of the second could be traced. That means that he was able to examine the ultimate results of 26 cases of forced dilatation of the sphincter ani. In 3 cases there was permanent incontinence of faeces. The histories of these cases are given in sufficient detail to render it certain that Dr. Melchior was correct in attributing the incontinence to the forcible stretching of the sphincter. In two cases flatus and liquid stools passed involuntarily, while in a third there was a complete loss of control. In summing up, the author states that the danger of incontinence of faeces can be avoided by limiting the amount of force in dilating, and more especially in undertaking the stretching only when the patient is in a condition of deep anaesthesia. It thus appears that the sphincter ani is not so tolerant as the surgeons of old and those of to-day who blindly accept inherited doctrines would have us believe.

ZOOLOGICAL NOMENCLATURE.

ZOOLOGICAL nomenclature is a sore point not only with zoologists but with the general scientific public, and in particular with medical men whose work calls for a knowledge of animals and an occasional reference to their scientific names. The disconcerting changes which have been widespread throughout the whole system of zoological names have been a source of great annoyance and much confusion. The names of even the most common animals have not been spared—names familiar for generations have been ruthlessly cast aside and replaced by others of uncouth and foreign aspect. Not only so, but in several cases names have been interchanged, with the result that the name which our grandfathers used to designate a certain animal applies now to some entirely different one. To such of us as in our youthful scientific enthusiasm learnt a few zoological names and were naturally proud of being able to repeat their euphonious syllables, it is a grievance that they should be replaced by others strange and barbarous to our tongue; yet it is of some small comfort to know that even professed zoologists, even teachers and professors of zoology, are not exempt, for it is a general confession that they find it impossible to recognize by their scientific names animals outside their own particular speciality. This must appear the height of absurdity, and it will be interesting to see how such an impasse has come about. The system of binominal nomenclature dates from Linnaeus; he gave names to the bulk of the animals known in his time. His descriptions, however, were not always remarkable for their accuracy, and they have provided much mental exercise for later zoologists. This system of nomenclature became of general use during the nineteenth century, and wa

found of extreme service in classification. In the beginning of the century the number of known and described animals was still comparatively small, and to distinguish them from each other the enumeration of a few striking characteristics was generally sufficient. Not infrequently, from lack of discrimination, several different animals were herded together under one name. With the great expansion of knowledge in later years the number of known animals became greater and greater. It was of frequent occurrence to find that two, or more than two, animals fitted the description of the earlier writers, and the puzzle was to determine which should have the established name and which a new one. In many cases, too, before the general dissemination of scientific periodicals, the works of earlier authors got lost or buried in out-of-the-way corners of libraries. A result of this was that many animals were described as new and given new names half a dozen times over. In this way the labours of the zoologists towards the end of the century became exceedingly complicated. New facts coming to light, and the display of greater acumen and historical ingenuity, showed that many discrepancies existed. Animals known by one name for fifty years were found to be the same as those known under another name at an earlier period, and so on. A great deal of confusion and controversy arose, which reached a climax in the appointment of an International Commission of Zoological Nomenclature. This body set itself to frame a code of rules, the chief of which advocated the strict adherence to the law of priority, by which is meant that an animal shall be known under the scientific name which was first definitely and unmistakably given it. This has been to a large extent carried into effect, with the present result. Assiduous individuals have spent their days and nights ransacking musty archives for long-forgotten tomes. From these they have extracted a galaxy of paradoxically new yet old names, which they have tacked on to the familiar friends of our youth. The binominal system, advantageous in so many other respects, has been of advantage here too, for it has provided individuals with the opportunity of changing two names or only one. Everybody, however, is agreed that some sort of finality is absolutely necessary, and to most zoologists the only hope seems to lie in the direction of the strict enforcement of the priority law. Notwithstanding this, a considerable section of British zoologists in particular are of opinion that some regard should be paid to the names of the more familiar animals, and that they should be exempted from the rigid application of the law. The matter was discussed at the last scientific meeting of the Zoological Society, and there was an almost unanimous agreement that such "flat" names, as they have been termed, should be upheld as far as possible. Dr. W. E. Hoyle, the British representative on the International Commission, gave an account of the recent meeting at Graz, and indicated that the tendency was to ignore the wishes of the British zoologists in the matter of "flat" names. The discussion which followed was largely of the nature of a protest against this. Desirable enough as the retention of these "flat" names may be, however, we cannot see that there is much to be gained by the restriction of the principle to a limited few, if this be done merely in the interests of the general public, whose claims, after all, are of quite secondary importance. What the mass of zoologists want is a system which will secure stability, which will obviate the necessity for antiquarian research, which, at the same time, will reject enigmatical descriptions, and will insist on the reference of all species to a central authority.

RESIGNATION OF THE STAFF OF THE NEWCASTLE INFIRMARY.

AT the meeting of the House Committee on December 15th a resolution from the House Committee was conveyed to the honorary staff suggesting that "eight members of each body should meet in order to remove, if possible, any cause of misunderstanding between the two bodies." This resolution will, therefore, be discussed by the honorary staff at an early date.

A MEMORIAL of Abbot Mendel, whose name is much in the mouths of students of the problems of heredity, will shortly be unveiled at Brünn.

THE County of Flint has now associated itself with the project of raising a sum of not less than £300,000 for the promotion of a crusade against consumption and as a Welsh memorial to His late Majesty King Edward.

THE library and offices of the Royal Society of Medicine, which are at present established at 15, Cavendish Square, W., will be closed from Saturday, December 24th, till Wednesday, December 28th, both days inclusive.

DR. DÉJERINE has been appointed to the Chair of Clinical Neurology in the University of Paris, recently rendered vacant by the death of Professor Raymond. The name of Professor Déjerine is so well known to neurologists, that nothing need be said as to his special fitness to occupy a chair made illustrious by Charcot.

WE regret to record the death on December 18th of Dr. James Edward Pollock in his 93rd year. Dr. Pollock, who was for many years physician to the Brompton Hospital for Consumption, was the author of two books which, each in its time, were of great value to the profession; one was *Elements of Prognosis in Consumption*, published in 1865, and the other a *Medical Handbook of Life Assurance*, first published in 1889. We hope to publish some account of his career in an early issue.

THE will of the late Sir George Sutherland Mackenzie, K.C.M.G., son of Sir William Mackenzie, M.D., who received his decoration in recognition of services rendered to develop British industries in Africa and Persia, and who was formerly Administrator of the Imperial British East Africa Company's Territories, contains a provision of medical interest. Subject to the life interest of his brothers, he has bequeathed a sum of £30,000 to the Presidents and Councils of the Royal College of Physicians of London and the Royal College of Surgeons of England for the endowment of scientific research by students of ability and of registrable medical qualification, who may thus be able to devote their whole energies to such work, and be independent of ordinary practice. He made this bequest in the hope that the combined results of the systematic work of so many trained workers may prepare the way for a genius to come who will make great discoveries, and he also stated that this bequest was in memory of Sir William MacKinnon, Bart., to whose kindness and influence in earlier years he owed both the means and the inclination to make the gift.

England and Wales.

[FROM OUR SPECIAL CORRESPONDENTS.]

LEEDS.

THE GENERAL INFIRMARY.

FOR some months a good deal of discussion has taken place at the meetings of the weekly board of the General Infirmary as to the propriety of members of the honorary staff holding appointments at the other charitable institutions of the city. The custom and rules on this subject, as is well known, vary in different institutions and in different centres of the kingdom, and it may be granted that what is a suitable and equitable rule in one centre may be unwise and unjust in another. The main, and indeed the only primary consideration, to which all others are subordinate, must be the welfare of the different institutions, that is to say, of the patients for whom the institutions exist. The admission of this principle, which of course cannot be gainsaid, leaves abundant room for a difference of opinion as to whether any rules at all against what is termed pluralism should be framed, and if such rules are framed what degree of stringency should attach to them. There are some who hold that so long as a man occupying the position of honorary officer to any institution discharges his duties to the satisfaction of the board of management, it ought to be a matter of no concern to that board, or, indeed, to any one except himself, what other demands are made on his time, whether these demands arise from his private engagements or his public duties, and that the board has as little right to look into these matters as to concern itself with the various occupations of its lay members at times when they are not engaged in infirmary duties. Those who hold this view it are probably of opinion that the kind of man who is likely to be entrusted with the responsible position of an honorary officer to an important hospital is not likely to assume other duties which would interfere with his work, and that in those rare instances in which anything of the kind might happen, the board of management should be strong enough to take the matter up, and should not shrink from doing so. Some there are also who, while of opinion that no man should hold similar positions at two hospitals, yet feel that it is unwise to debar members of the honorary staffs of our larger hospitals—and especially junior members of those staffs—from being attached to special hospitals, such as children's hospitals and those dealing with special diseases—for example, those of the skin, tuberculosis, venereal diseases, etc.

Such a restriction might be a hardship, especially in cases where the members of the junior staff are not entrusted with the care of in-patients, but are concerned exclusively with the out-patient departments. After a very full discussion, in which, as happens from the wise provision that has always prevailed at Leeds, that every member of the honorary staff of the infirmary is a member of the board of management, the professional aspects of the case received full recognition, the following rules were agreed to with practical unanimity, and, on being submitted to a general meeting of the governors, were adopted:

That from and after January 1st, 1916, members of the full honorary staff shall not hold any other honorary hospital appointment than their appointment at the infirmary.

That from and after January 1st, 1916, members of the assistant honorary staff shall not hold more than one honorary hospital or dispensary appointment in addition to their appointment at the infirmary, and that such additional appointment must not involve the charge of beds.

Provided that this shall not be held to prevent members of the staff from holding consulting appointments at other hospitals, appointments at the University of Leeds, or appointments to offices in the Territorial Medical Force, or (so long as they are not elected to a different position from that now held by them) from retaining appointments now held by them.

In considering the propriety of these rules having been passed, one must have in one's mind the special conditions which prevail at the Leeds Infirmary, which are that all departments of medicine and surgery are represented in the institution. The eye and ear departments are very large, and the number of women and children treated is greater than that for which treatment is provided at any of the other charitable institutions of the city. These rules, again, must not be considered by themselves, but in connexion with some recent regulations, which provide that every member of the junior or assistant staff is entitled from the day of his election to the use of a certain number of beds. During the time the framing of the rules was under discussion representations were made to the board of the infirmary by other institutions to the effect that the passing of such rules would deprive them of the services of the kind of man they desired to see on their staffs. Here, again, it must be borne in mind that it has always been the custom for any man on his appointment to the honorary staff of the infirmary to resign his position on the staff of any other institution with which he has been connected if there was any one eligible for election thereto, and only to retain the position if there were not.

A position as honorary assistant physician or surgeon to the infirmary is, under the new rules, still compatible with being on the staff of the Leeds Public Dispensary; but promotion to the full staff of the infirmary would call for resignation of the dispensary post. The objections on the part of the authorities of the dispensary were met by the understanding that this would not be called for until time had been given for them to make arrangements—it might be by the attracting to Leeds of someone desirous of going in for consulting work—for filling the position.

The special case of the Association for the Prevention and Cure of Tuberculosis, a position on the honorary staff of which involves the charge of beds, was not met by this consideration; but this also will be effected by the passing of a rule, which cannot be here mentioned, because, though it is known to be generally agreed upon, it has not as yet been brought before a general meeting of the governors.

Those who feel that the system which prevails in Leeds that all the members of the honorary staff are on the board of management is a good one, will be disposed, and very rightly so, to point to the practical unanimity with which these rules have been adopted as another example, of which there have been many in the past, of the facility with which important changes, if they are thought wise, may be made without friction. Though every member of the staff is on the board, and is entitled to take part in all discussions, the voting power of the staff is limited to eight votes, which in the event of a party vote—an occurrence which has never taken place—leaves the final verdict, as is proper, in the hands of the lay members.

MANCHESTER AND DISTRICT.

THE SALE OF MEDICATED WINES.

AN important case concerning the sale of medicated wines was recently brought before the Manchester County Court. A chemist of Old Trafford and his employer, a chemist of Stalybridge, were both summoned for selling Wincarnis without a licence. For the prosecution it was stated that the summons was taken out under Section 3 of the Licensing Act of 1872 for selling intoxicating liquor without a licence. Evidence was given as to the purchase of two bottles of Wincarnis, one of which was analysed by the county analyst and found to contain 14.2 per cent. alcohol present as a product of fermentation. In cross-examination it came out that the bottle was labelled in several places as "Wincarnis with Quinine." For the defence it was submitted that Section 72 of the Act did not apply to the sale of medicated spirits, or to spirits made up in medicines and sold by

medical practitioners or chemists and druggists, and the evidence of the analyst was that the Wincarnis analysed was sufficiently medicated to be unpalatable as a beverage, and the defendants claimed that they were within the protection of the clause referred to. They also said that they sold it not as a beverage but as a medicine. Dr. E. S. Reynolds, who gave evidence for the defence, said that he considered Wincarnis to be a drug, that he had known it to be ordered by many doctors as a drug, and he thought that it would produce quinine poisoning before it produced intoxication. The case was adjourned for the stipendiary to take time to consider his decision, and at the adjourned hearing he said that an intoxicating liquor was defined to be any fermented liquor which could not be legally sold without a licence. In the opinion of the court Wincarnis was a fermented liquor, but as this was the first case of the kind that had come before the court, the small penalty of 20s. would be imposed, with costs in each case. The court agreed to an application that a case should be stated.

Mining under a Hospital.

The Trustees of the Manchester Children's Hospital at Pendlebury recently applied for an injunction against Messrs. Knowles and Sons, colliery proprietors, to prevent them extracting coal from below the hospital. The plaintiffs alleged that by the extraction of coal from below the hospital serious damage had been done to the premises. After several sittings and hearing a considerable amount of evidence, the Vice-Chancellor of the Lancashire Court of Chancery decided to grant the injunction restraining defendants from working the mines below the hospital, and also an inquiry as to damages. The injunction would be stayed for three weeks with regard to the working of one of the seams, and, if the defendants decided to appeal, the stay would be continued until the appeal had been heard.

Medical Women and the Royal Infirmary.

Last week an account was given in this column of the recommendations made by a special committee of the Board of Management of the Manchester Royal Infirmary on the question as to how best to provide post-graduate training in medicine and surgery for medical women graduates of the Manchester University. After considering these recommendations, the Manchester Branch of the Northern Association of Medical Women has passed the following resolutions:

1. That this association is grateful for the efforts of the subcommittee of the Royal Infirmary Committee to afford post-graduate experience for women.
2. The association hopes that the scheme, which appears to be a tentative one, may be soon replaced by one giving more responsibility and a more clearly defined position to the women graduates.

Care of the Feeble Minded.

The report presented to the annual meeting of the Lancashire and Cheshire Society for the Permanent Care of the Feeble-minded, which was held in the Manchester Town Hall under the chairmanship of the Lord Mayor, showed that the colony at Sandlebridge is now quite full, there being 225 residents, 50 of whom are between the ages of 19 and 22. During the year 4 children had been removed by their parents on reaching the age of 16, though the parents had given a promise not to interfere. The report stated that in each case it was selfishness on the part of the parents that had led to the removal, as they thought they could get some work out of the children, and the governors had been quite convinced of the urgent necessity for powers of detention to be given to proper authorities. Several extensions to the buildings had been taken in hand, notably a house for men, which would leave room for about 12 more boys, a dormitory for girls, and a laundry; the hope was expressed that funds might be obtained to build a hospital in connexion with the colony. The income of the society is only just enough to enable it to pay ordinary expenses, but it cannot meet the demands constantly made for increased accommodation. The Lord Mayor pointed out that the Poor Law Commission had agreed as to the advisability of the permanent care of the feeble-minded, and he hoped the Government would render the needed State assistance. Especially should it be made impossible for parents and relations to enforce the removal of the children, and the sooner legislation was passed to bring this about the better. Sir T. T. Shann said that 217 patients now depended entirely upon the society, an increase of 33 during the year, while 51 were over the age of 16, the age at which local authorities as a rule ceased to contribute. This last class had increased by 13, and the society was gradually increasing the number of those who would entirely depend on its funds. What would happen when the whole of the 220 children attained manhood and womanhood needed some courage to contemplate. "Surely," he said, "if the Government can contribute three-fifths of the cost of a normal child's education it can do something better than find what is not a sixth part of the cost of saving these afflicted children, whose lives will largely be spent in the workhouse, as loafers or unemployed, or as criminals, a danger to themselves and a danger in a far greater degree to the whole community."

It may be noted that the Manchester Education Committee has freely availed itself of the provision made by the society which undertakes the care of the children for life, although the contribution of the authority ceases at the age of 16. Teaching and instruction are carried out in the happiest surroundings at Sandlebridge, where there is a farm of about 120 acres with gardens and greenhouses which afford work for the older boys, whilst the girls are employed in laundry work and household duties. The town special day schools cannot provide anything like these favourable conditions, as the children have to go out into the world at 16, and the after-care committees, as the Education Committee points out, afford but a poor substitute for the permanent care that may be grafted on the residential schools. The additional cost, however, is a serious item, as each child in the residential school costs about £25 a year, even in an institution of 200 inmates, and the Education Committee agrees with the society that this additional cost is a matter that ought to be met by the Government.

LIVERPOOL.

Education Committee and Eyesight Testing.

THE Education Committee of the City of Liverpool has now adopted the following resolutions in regard to the testing of the eyesight of children attending the elementary schools who are reported by the school medical officers to have defective vision, and whose parents are found to be unable to defray the cost. Resolved:

1. That every child shall receive a voucher to be redeemed at the price of 3s. if signed by a registered medical practitioner recognized by the local education authority for this function.
2. That a list be prepared of such hospitals and registered medical practitioners as the subcommittee considers to be properly equipped for such work, and have expressed their desire to undertake it.

Liverpool Medical Students' Dinner.

The medical students of the Liverpool University held their annual dinner on December 17th. Mr. R. W. Murray, Surgeon to the Northern Hospital, was in the chair, and Dr. Ernest Glynn acted as Vice-Chairman. Certain topical songs were a striking feature of an enjoyable evening. A large number of the staff of the medical school were present, and there were guests from the two schools of Manchester and Leeds.

Ireland.

[*FROM OUR SPECIAL CORRESPONDENTS.*]

BACTERIOLOGIST TO DUBLIN CORPORATION.

SOME weeks ago the Dublin Corporation, from amongst a large number of candidates, elected Dr. M. J. Russell as City Bacteriologist, but the Local Government Board has refused to confirm the appointment. Dr. Russell already holds the posts of Medical Superintendent Officer of Health to the South Dublin Rural District, and of Medical Officer to the Castle Street Dispensary, and in consequence, in the opinion of the Local Government Board, is not in a position to undertake the very responsible duty of advising the Corporation of Dublin on a subject which requires close and unremitting work in the laboratory. Having regard to the extreme importance of the post of City Bacteriologist in relation to public health and expenditure, the views of the Local Government Board are shared by many independent persons. No action has so far been taken by the Corporation regarding the matter.

CONFERENCE OF POOR LAW GUARDIANS.

A conference of Poor Law guardians was held in Dublin early in December, under the presidency of the Earl of Mayo, for the purpose of discussing proposed alterations in the Poor Law system. The following resolutions were adopted:

1. That the county should be the area for which special institutions for the sick and aged should be maintained, and the cost should be paid out of the county and county borough rates.
2. That the county council should have the duty of administering relief to the sick and to the aged and infirm, and should act through committees directly responsible to it, each committee to consist of (1) members of the council, and (2) persons of experience from outside.
3. That the duty of making suitable provision for persons suffering from mental defects should be laid upon county authorities, as recommended by the Royal Commission on the Feeble-minded.
4. That the duty of making suitable provision for the feeble-minded should be an Imperial charge.

IMPURE GAS IN DUBLIN.

Considerable anxiety has been caused to many of the Dublin householders of late by the prevalence in their houses of an exceedingly unpleasant and all-pervading smell. In many cases it was attributed to a breakdown of the house drainage system under the strain of the recent heavy floods, and in consequence testing of drains has been carried out apparently on an extensive scale, without disclosing the cause. The explanation has, however, been provided by the city gas examiner, who states that from December 1st up to the date of his letter to the press, December 9th, very heavy traces of sulphuretted hydrogen, traces of ammonia, and an excess of carbon dioxide gas have been present in the city gas supply, owing to some temporary defect in the purifying chambers at the gas works. It is stated that the percentage of sulphuretted hydrogen likely to escape into rooms would be insufficient to produce ill health, but as no accurate statement regarding the amount of this impurity in the gas is furnished it is only natural that attacks of nausea and headache which have been complained of in some houses where the smell has been particularly offensive, should be attributed to the condition of the gas. Some dissatisfaction is expressed that the gas company, although aware of the impurity of its product, did not notify the public of the fact until several days after the discovery was made.

FEEDING OF SCHOOL CHILDREN.

At a public meeting recently held at the Mansion House, Dublin, a resolution was adopted demanding the extension to Ireland, with whatever special provisions are found necessary, of the Act empowering local authorities to make provision for the feeding of necessitous children.

ASSOCIATION OF FELLOWS, R.C.S.I.

The first annual dinner of the members of the Association of Fellows of the Royal College of Surgeons in Ireland was held in the Gresham Hotel, under the presidency of Lieutenant-Colonel Adye-Curran, and was well attended. Dr. Sheppard Boyd, of Harrogate, who proposed the first toast, that of "Our Association," spoke strongly on the attitude of many English committees in reference to the filling of hospital vacancies, which, he said, was summed up in the formula "No Irish need apply." Their new association, by binding together all the Fellows of the Irish College, would, he hoped, help them to overcome this grievance, against which Irishmen had been contending for fifteen years. The President, in replying to the toast, said that for some time past it had been urged that the Irish should resent the English attitude complained of by excluding those with English degrees from Irish hospital appointments, but stated that in his opinion such a course of action would be mistaken.

ALLEGED BRIBERY AT DISPENSARY ELECTION.

In the issue of the JOURNAL for December 3rd (p. 1810) the decision of the Local Government Board to disallow the appointment of Dr. Holmes as medical officer to the Scariff Union, co. Clare, in consequence of certain alleged acts of bribery, was referred to. Since that date the Scariff guardians have discussed the matter, and have apparently come to the conclusion that the Local Government Board has acted *ultra vires*. The guardians have, therefore, requested Dr. Holmes to continue his duties at the usual salary until the appointment has been ratified, and have requested the Local Government Board to state specifically its grounds for refusing to sanction the appointment.

PRESENTATION TO DR. J. A. SINTON.

On the evening of December 16th a number of friends of Dr. Sinton met at the Medical Institute, Belfast, to show their high appreciation of his work as Riddell Demonstrator of Pathology, and to offer him their warmest hopes for the future. Dr. Sinton has held the post for two years, and has rendered many medical men—alike general practitioners, specialists, and consultants—most valuable services in the innumerable examinations for Widal's reaction of sputum, blood films, and urine (bacteriology) which he has made. Nothing has ever seemed a trouble to him, and the work has been quickly and accurately done. Professor Symmers was in the chair, and over thirty were present, although many more joined in the movement. The chairman, in a most amusing speech, detailed some of the work of the laboratory and the foibles of the workers; he bore testimony to the high character and ability of Dr. Sinton and to his unimpeachable discharge of duty; he asked him to accept the gift of a microscope as a remembrance of these happy days and a mark of their indebtedness to him and their high appreciation of his worth. Dr. Sinton expressed his very sincere thanks for the honour shown him, which he thought was far in excess of his merits. Many contributed to the amusement of the evening by original poetry, songs, stories, and recitations. Tea, coffee, and tobacco were supplied by a few of the laboratory workers. The microscope is one of the latest and best, with all improvements. Dr. Rankin kindly acted as secretary, and much of the success of the evening was due to him.

DR. CLIBBORN, J.P.

At the Belfast City Hall, on the evening of December 12th, a representative meeting of the Belfast dispensary medical officers and members and officials of

the Public Health Committee was held for the purpose of making certain presentations to Dr. Clibborn, late Local Government Board Inspector. Dr. Stanley Coates presided, and, on behalf of himself and his colleagues, expressed the hope that Dr. Clibborn would long be spared to enjoy his well-earned retirement. He called upon Dr. Milligan to make the first presentation. Dr. Milligan paid a high compliment to the upright and courteous manner in which Dr. Clibborn had always discharged his duties; this was heartily supported by Dr. Osborne. Dr. Clibborn, in reply, said it would be hard to answer all the kind things said of him. His work was rendered pleasant by the men with whom he had to work; he would always treasure the beautiful gift made, and asked the donors to accept his very sincere thanks.

Dr. Robert Thomson, Chairman of the Public Health Committee, said they desired to take advantage of that meeting to show their high appreciation of Dr. Clibborn's valuable assistance and worth to the committee on many occasions. He would ask Dr. Clibborn to accept a silver cigar box and cigarette case as a small memento. This was supported by Dr. Bailie, Medical Officer of Health, and Mr. Meyer, Town Clerk, who referred to Dr. Clibborn's unfailing tact and courtesy, which so tended to promote the smooth working and friendliness of the Corporation and Local Government Board. Dr. Clibborn again replied, and tendered his warmest thanks.

The presentation from the Dispensary Medical Officers consisted of a very handsome solid silver salver of over 70 oz. weight, with the following inscription in the centre and autographs of the staff engraved around:

> Presented to
> Cuthbert J. Clibborn, Esq., M.D., J.P., on his retirement from the position of Medical Inspector, Local Government Board for Ireland, with the best wishes of the members of the Dispensary Medical Staff of Belfast Union, and in recognition of the marked ability, courtesy, and consideration which he invariably displayed in the discharge of the duties of his office.
>
> 12th December, 1910.
>
> John Barron, William Burns, Stanley B. Coates, W. D. Donnan, James Fulton, James C. Ferguson, Hugh J. Irvine, John Kennedy, J. C. Loughridge, H. C. Manley, Joseph Martin, Chas. J. Milligan, William Minford, R. Jackson Munn, H. B. Murray, H. D. Osborne, William Patton.

ELECTION OF A DISPENSARY MEDICAL OFFICER.

An interesting light is thrown on the method of conducting dispensary elections in Ireland by the events that occurred at a recent meeting of the Mount Bellew (co. Galway) Board of Guardians. The meeting was the third that had been called for the purpose of electing a medical officer. At the two previous ones two candidates had offered themselves for the appointment, and the voting had resulted in a tie. On this occasion a member of the board who had on former occasions been absent attended, and as a result one of the candidates was elected by a majority of 15 votes to 14. The report of the proceedings states that, as on former occasions, the board-room was crowded with interested ratepayers, who followed and at times took part in the proceedings, members of the board who did not vote to their liking coming in for some nasty remarks. The feeling ran so high in the district that the authorities, fearing a disturbance, sent a district inspector and eight or nine constables to keep the peace if necessary. On the declaration of the poll the successful candidate was triumphantly carried round the board-room on the shoulders of some of his supporters amidst a wild scene of enthusiasm.

WE regret to announce the death of Dr. Franz König, Professor of Surgery in the University of Berlin, aged 78. He was one of the foremost surgeons of Germany, and his name is known throughout the surgical world as the editor of the *Spezielle Chirurgie*. His own work was largely concerned with tuberculous disease of bones and joints.

Scotland.

[FROM OUR SPECIAL CORRESPONDENTS.]

EDINBURGH POST-GRADUATE COURSES IN MEDICINE.

IN a report submitted to a meeting of the lecturers and demonstrators who took part in the recent post-graduate courses, the Executive Committee stated that the termination of the fifth successive annual course was an opportune time for reporting progress. The first of the series, a course of three weeks' duration, was held in the autumn of 1906. The following September this course was extended to four weeks, divisible into two independent fortnights. A four weeks' course in surgery, the attendance limited to 25, was held in 1908, simultaneously with the general course, while the committee consented to advertise a series of independent classes on methods of diagnosis during the last fortnight of August. The arrangements for September, 1909, were very similar, but the August lecturers extended their classes throughout the whole of that month. This year (1910) the general and surgical courses during September were run on the same lines as in the past. The Executive Committee, however, took over the management of the August classes, and, by adding to these two hours of clinical instruction daily, instituted a four weeks' course on internal medicine, with an attendance limited to 25. The September courses in 1910 had been at least as successful as in previous years, while the August course was admitted to have given general satisfaction. The total number of entries for the surgical course were received nearly two months before its commencement, and many applications had to be refused; 23 graduates entered for the August course on internal medicine, and some 60 for the general course in September. There has thus been a gradual development in the scope of the course from year to year, while the attendance has been increasing. The announcement of the arrangements decided upon by the Executive Committee for 1911 will be awaited with interest.

THE CARE OF THE BLIND IN EDINBURGH.

Edinburgh is noted for its charitable institutions, and of the many labouring among the poor and afflicted the Royal Blind Asylum and School deserves every support. Among the many claimants upon public generosity there is no class more worthy than the aged deserving blind who are in needy circumstances and unable to provide in any way for themselves. The annual report of the Royal Blind Asylum and School just issued shows the amount of good work which has been done in connexion with these afflicted ones. No less a sum than £18,152 was received by the manufacturing and sale departments for work done by the inmates. Another very interesting fact mentioned was the success of one of the boys of the school, who passed the University preliminary examination. He is the first boy who has proceeded from the school to the university, and the directors believe he is the first totally blind boy who has passed this examination.

GLASGOW.

Medical Temperance Association.

The Glasgow Branch of the British Medical Temperance Association held its fifth annual social gathering on December 8th, Dr. W. L. Reid, President of the branch, presiding. Referring to the question of temperance, the Chairman referred to the prohibition laws in Norway and the lessons to be learnt from them. During the year Dr. Brownlie McKendrick had resigned the honorary secretaryship of the branch and Dr. John H. Martin had succeeded him. Several addresses and a programme of music followed.

Infantile Mortality in Glasgow.

The annual meeting of the Glasgow Infant Health Visitors' Association was held in the City Chambers on December 6th, Mrs. McInnes Shaw, wife of the Lord Provost, presiding. The report for the year

showed that an amount of valuable work was being done by the Association, more than double the number of infants having received attention—3,320, as against 1,500 the previous year. The number of visitors was 262, and 16 branches were located in different parts of the city. Dr. A. K. Chalmers, City Medical Officer of Health, gave some details as to the work. In order to obtain some definite information the results had been analysed of the visitation of those children born in the year ending October, 1909, the youngest of whom would have completed one year on November 1st, 1910. These numbered 2,420, and the information regarding them might be summarized thus: Attained the age of one year, 905, or 37.4 per cent.; died under one year, 279, or 11.5 per cent.; removed, 766, or 31.8 per cent.; visits unnecessary, 132, or 5.4 per cent.; visits objected to, 6, or 0.2 per cent.; final reports not received, 226, or 9.2 per cent.; not reported upon, 106, or 4.5 per cent. It was thus only possible to deal definitely with the 905 who attained the age of one year and the 279 who died. Taking these figures, there was a death-rate of 236 per 1,000 born, but if they assumed that the 226 not yet finally reported upon were all alive, then the rate was reduced to 198 per 1,000. These rates were much in excess of the general rates in the districts visited, but it was because of the unsatisfactory and adverse conditions existing that these children were specially selected for visitation. Almost a third of the total were lost sight of because of removal, while in regard to 106 others there was no information. If a greater number of visitors could be obtained these figures might be considerably reduced, and they were submitted to show the necessity for pushing forward and extending as far as possible this beneficent work.

The Crusade against Phthisis.

The report by the Council of the Glasgow and District Branch of the National Association for the Prevention of Consumption indicates progress, slow but steady. The education of the public was being undertaken by means of lectures and addresses, and the distribution of pamphlets. The combined action of the Corporation and public companies had considerably reduced the evil of promiscuous spitting in public conveyances and public places. The dispensary was proving a valuable agency also in advising and treating cases, and selecting suitable cases for the Bellefield Sanatorium. The sanatorium had admitted 136 cases during the year, of whom 126 had been discharged. The results were encouraging. Of the 126 cases discharged, 19 had the disease apparently arrested, 31 were very much improved, 49 were improved, 19 were not improved, while 4 were dismissed, 1 left and 3 died. Owing to the increased accommodation at the sanatorium it was necessary to institute a maintenance fund and to ask for the financial assistance of the public towards this fund.

Work of Public Health Department.

Lecturing at Glasgow University on the Public Health Department and its Work, Dr. A. K. Chalmers, Medical Officer of Health for Glasgow, said that the precise function of a public health department at any given period could only be described by a review of the several Acts of Parliament which for the time being prescribed its functions. This was due to the practice of utilizing existing administrative machinery for the carrying out of each new Act. The medical officer of health must, for instance, under the Factory Acts report on the provision of fire escapes, while the operation of the Notification of Births Act may occasionally lead to a prosecution of parents under the Children Act, although one Act is administered by the Home Office and the others by the parish council. Public health legislation grew out of inquiries into Poor Law relief, and the essential unity of many of the problems of Poor Law and public health administration was still maintained in the principal functions of the Local Government Boards of the separate divisions of the kingdom. Again, the supervision by the education authorities of the health of the child at school ages was administratively convenient, but the hygienic problems of the school ages were part only of the general problem of hygiene at all ages, and in any scientific grouping of the functions of government fell into the same category. So, also, in the application of the Factories and Workshops Act, which was applicable throughout the whole kingdom, there were many clauses designed to protect the health of the worker, most of which fell under the supervision of the Home Office staff, but some of which were made operative through the local public health authorities. Also included was a requirement to notify the occurrence of any trade disease, such as anthrax, lead poisoning, and phosphorus, arsenic, or mercurial poisoning, to the Home Office. To get back, however, to the basal factor in determining the present-day functions of public health administrations the dominating influence of environment in the conception of the causes of disease must be remembered. And as environment was without meaning apart from its local operation, the Public Health Acts, applicable generally to the several divisions of the United Kingdom, were supplemented in almost every community of any considerable size by local Acts for special purposes—such, for example, as water supply, sewage disposal, and buildings regulations. On the other hand, some had wide application—such as the Factories and Workshops Act, the Food and Drugs Act, the Dairies, Cowsheds, and Milkshops Order, the Foreign Meat and Unsound Food Regulations.

A SCHOOL BOARD AND MEDICAL CERTIFICATES.

A report was submitted to Dunfermline Parish School Board on December 5th by the attendance officer, in which he suggested that some effort should be made to check non-attendance at school and "toying with medical certificates." He instanced what he described as several glaring cases in connexion with the medical certificate question, where medical certificates were supplied whenever asked for, till within a fortnight of the day for leaving school, when the children suddenly recovered health and went to work. All such cases, he urged, should be referred to the school medical officer. In the course of the discussion which followed, it was pointed out that it seemed inconsistent that the school medical officer should send an ailing child home, and that after it was home no further notice was taken of it. The board eventually agreed to ascertain what the school medical officer's duties were, and if the work of examining a child at home was not within his office, to see that all medical certificates from other practitioners be given on soul and conscience. It is to be hoped that the practitioners in question will insist on the board making provision for the payment of these.

EXAMINATION OF TINNED FOODSTUFFS AT LEITH.

The Leith public health authorities have recently been examining tinned foodstuffs for the presence of the salts of tin. They have taken this action in view of an order which the American authorities have issued to the effect that they will prohibit the importation of tinned foodstuffs prepared after January 1st, 1911, if, upon examination, the foods are found to contain the salts to the extent of more than 2 grams to the lb. The Leith Medical Officer of Health has recommended the local authority to petition the British Government to make a similar regulation for this country.

QUEEN VICTORIA'S JUBILEE INSTITUTE FOR NURSES.

At the annual meeting of the Scottish Branch of the Queen Victoria's Jubilee Institute for Nurses, held on December 13th, it was shown that the work of the institute in Scotland is being carried on with much vigour. During the year 39 nurses had successfully passed through the six months' training, while the number of Queen's nurses in Scotland now totals 345, being an increase of 22 over last year. This year there were 216 nursing associations affiliated to the institute, being an increase of 9 over last year. The number of patients attended had been 5,828, while the number of visits paid was 142,586.

COST OF SCHOOL MEDICAL INSPECTION.

The medical inspection of school children in Fife during the past twelve months cost £1,610, being at the rate of 7¾d. per pupil.

BRONZE AGE FINDS.

At a recent meeting of the Society of Antiquaries of Scotland, Dr. Anderson gave a description of a hoard of bronze implements and beads of gold, amber, and glass recently discovered at Adabrock, in the Island of Lewis. The hoard, which was found by a crofter digging peats, consisted of two socketed axes, a gouge, a tanged chisel, a socketed hammer, a spear head, and three razor blades, all of bronze, one doubly conical bead of gold, two amber beads, and one of greenish glass with whitish spots. With these objects there were two polishing stones or whetstones, and the whole seemed to have been contained in a vessel of thin bronze, of which only a portion of the rim and of the side towards the bottom remained. Such hoards of bronze implements and other objects may be classed according to their composition as individual property concealed temporarily and not again resumed by the owner, or the property of a travelling merchant, consisting of articles that have not been used, or the hoard of a founder in bronze, consisting of much worn out and broken implements ready to be melted and remade. This hoard appeared to belong neither to a trader nor a founder, but to be a deposit made by a private individual, including not only his own stock of tools and one weapon, but the personal ornaments of a female member of his family. The fact that there are three razor blades is paralleled by a similar occurrence of three in a Bronze Age find in Dunbar. This hoard belongs to the latter part of the Bronze Age, which is reckoned to be a few years prior to the Christian Era.

INEBRIATES ACTS.

The seventh report of the Inspector for Scotland under the Inebriates Acts, for the year ending December 31st, 1909, has just been issued. The Inspector, Dr. J. C. Dunlop, states that during the year under review there were in all nine institutions inspected, including three licensed retreats, five certified inebriate reformatories, and one State reformatory. The total number of persons dealt with during the year was 239, of whom 121 were retreat patients and 118 reformatory inmates. Compared with the returns of the previous year, 1908, the institutions number one more, a new retreat having during the year received a licence; but the persons dealt with are 34 fewer, retreat patients being 1 fewer and reformatory patients 33 fewer. These figures show that licensed retreats continue to about the same extent as formerly, but that the reformatory treatment of the police-court drunkard is now being less seldom used. Experience gained in Scotland has shown that these institutions for the care and treatment of inebriates can fulfil useful functions. Retreats have been found to be of value as curative institutions for the treatment of habitual inebriety, and reformatories as places for the segregation and control of drunken persons, and to some extent as curative institutions. The "recovery rate" in well-conducted retreats is found to approach 50 per cent., and that of reformatories to be about 7 per cent.; the former figure is satisfactory, and sufficiently good to enable an inebriate to enter such an institution with a reasonable hope of recovery; but the latter is small, it could not well be otherwise, because the conditions required for conviction under the Inebriates Acts are so severe that the more hopeful class of inmate is excluded.

The value of a reformatory as a place of segregation has been illustrated at Greenock. In that town the reformatory is of sufficient size to accommodate all the worst of the female drunken pests. Full advantage has been taken of it, and the removal of those drunken pests from the town has been found to be very beneficial, resulting in a marked diminution in the number of drunken and riotous scenes in the streets, and in a marked diminution in the number of female apprehensions.

Licensed Inebriate Retreats.

The retreats referred to under this heading are those licensed in terms of the Habitual Drunkards Act, 1879, as modified by the Inebriates Act, 1898, to receive and detain for the purposes of care and treatment habitual inebriates, both dipsomaniacs and narcomaniacs, whose application for admission is attested by a justice of the peace, and supported by a statement signed by two friends, in proof of the existence of habitual inebriety. At the commencement of the year 1909 there were in Scotland two licensed retreats, during the year one new one was opened. All three are conducted by private enterprise, and are designed to meet the requirements of the upper and middle classes. There is still in Scotland no licensed retreat accommodation adapted to the requirements of the labouring and artisan classes, as the fees necessarily charged in the three existing retreats are more than members of these classes can afford. So far in Scotland no county council or town council has seen fit to exercise the power given by the Act of 1898, to contribute towards the expense of retreats, and thus make provision for patients of the less well-to-do classes.

Certified Inebriate Reformatories.

These institutions are established for the detention and possible reformation of inebriates sentenced to detention in them in terms of Sections 23 and 24 of the Inebriates Act, 1898. For conviction under Section 23 it is necessary that a person be an habitual drunkard and be convicted of an offence punishable by penal servitude or imprisonment without the option of a fine, and which offence was committed under the influence of drink, or be such that drink was a contributing cause. For conviction under Section 24 it is necessary that an person be a habitual drunkard, and that he should have been four times within twelve months convicted of one or other of certain scheduled drunken offences, such as being drunk and disorderly, or drunk and incapable, and not in charge of a responsible person.

There were five certified reformatories in Scotland during the year, four of them being for female inebriates and one for male inebriates.

The State Inebriate Reformatory.

This reformatory has accommodation for 14 males and 25 females. At the commencement of the year there were 29 female inmates and 6 male inmates. During the year 5 women and 2 men were admitted, and 6 men were admitted, having been transferred from certified reformatories on account of their uncontrollability. Discharges during the year numbered 18, 4 being men and 14 women; at the end of the year there were 30 inmates.

Special Correspondence.

PARIS.

The Tendencies of Present-day Therapeutics.—The Pathological Rôle of Curative Remedies.

I COULD not help heaving a sigh of relief the other day when I read an advertisement of a new publication on "La thérapeutique en 30 médicaments," written by one of our ablest and most celebrated physicians. It is true that thirty medicines would seem to afford but little scope for the skill of the modern doctor; but how much better it would be for his patients if the present-day physician knew how to use these few remedies wisely instead of prescribing those specimens of polypharmacy which are the delight of the druggists! Thirty medicines! The reader must remember that at the present moment we possess, not only this number of remedies, but a variety of general methods of medicinal treatment. When, later on, the history of the medicine of our time is written, people will most certainly be struck by what I cannot help calling (somewhat disrespectfully, perhaps) our therapeutical flightiness. Every

six months or so it happens that some young teacher rushes into print to ventilate a new theory and illuminate the darkness in which we are groping with a flood of fresh light, which, alas! is very often deceptive. In this way we have witnessed the ephemeral glories of the formic panacea, the phosphorus medicine, thalasso-therapy, high frequency currents, radium-therapy and *x*-ray treatment, musico-therapy, photo-therapy—in fact, all the kinds of physio-therapy, and I do not know how many antitoxins, paratoxins, bacillines, and mycolysins. All these things may have a certain value; certainly, many of those I have just cited are most useful in the treatment of disease. To get a proper idea of their true value, it is best to regard them from a standpoint as far removed from the wild enthusiasm raised by their first introduction as from the disfavour into which they afterwards inevitably fall. It is a thousand pities that the feverish haste and excitement aroused by a fresh scientific discovery should too often be wasted over its introduction to the general public rather than reserved for perfecting the new treatment. There are two features which are displayed in the conquest of disease just as in the disease itself—the assailant and the assailed, the infection and the soil. Those who look upon the latter as the first consideration are merely clinging to the ancient and general belief in the panacea. All their efforts are expended in the endeavour to safeguard the integrity of the organism by some means which will render it immune against all attacks. Nowadays, Quinton with his marine cure, and Doyen with his mycolysin, belong to this class, just as formerly did Guy Patin with his belief in bleeding, and Renaudot and his antimony. Considered from this point of view, the question is vast and yet quite simple. It turns upon the unity of life, which, at all costs, must be imitated and retained. Another class consists of those who regard all disease as caused by microbes, and believe there is a special means of defence against each one, whether it is bacilli, serums, or vaccine. Carried to its logical conclusion, this will mean that the therapeutic arsenal of the future will contain simply the one drug that the profession has finally adopted; or rather that the chemists will empty the innumerable bottles of the ancient pharmacopoeia in order to refill an equal number with extracts that will either cure or render immune from disease.

We have followed with great interest Professor Dieulafoy's lectures on the opsonins and vaccines of Wright, which seem to foreshadow the possibility of a reconciliation between the two systems; the organism and disease, studied in every detail of their conflict with one another, are here considered, in a reduced form, as microbe and phagocyte. But a third element has to be taken into consideration—the serum, which has so great an influence on the result of the combat between the two former elements. In some cases the phagocytes in the serum are the cause of death, in others the micro-organisms; and all this can be seen and proved (under proper conditions) equally well in a glass tube as in a blood vessel. What is the mysterious power that plays the same part in the serum of the blood that the Saxons did at the battle of Leipzig? The answer is contained in one word—opsonins. I believe this to be true, but as no one has as yet succeeded in isolating and defining physically and chemically these same opsonins, we should take care not to look upon the problem as solved because a name has been given to a hypothesis. Every one holds more or less by opsonins; but how do these opsonins act? If they increase the activity of microbes, then they, too, must be specific and varied; but if, on the other hand, they increase the power of the phagocytes, their general composition is probably invariable, and it may be possible, instead of using different vaccines, to discover something that by itself alone will encourage the growth of our opsonins. If such is the case, we shall only come back to the universal panacea of which, in spite of everything, we all dream. In any case, we all attach a certain amount of importance to the individual vitality—the opsonic index. This is a new theory which may overthrow all the present theories concerning evolution and social phenomena. As a matter of fact, it is easy to see how valuable the determination of organic resistance may be in the selection and formation of the races of mankind. Quite recently a law was passed in America forbidding marriages between such persons as are unable to show a medical certificate to the effect that they are completely healthy in mind and body. It will be even better when, in similar circumstances, every one is obliged to give his opsonic index as well as an account of his worldly possessions. What will the ballad writers of the future make of such a state of things? In the meantime, however, to come back to the serious side of the question, of what value are the results which have been obtained so far? People are beginning to get tired of statistics. I venture to suggest another means of estimating the value of a remedy—a certain criterion. My readers may perhaps have noticed that if the first result of a successful remedy is to cure the disease, the second is to increase the number of its victims. There have never been so many cases of diphtheria as since the discovery of the antidiphtheria serum. Formerly only a sore throat which killed the patient was called "diphtheria," but nowadays that name is given to a sore throat which is cured by an injection of serum. Such examples could be multiplied indefinitely. It is quite certain that if a successful method of vaccination against typhoid fever was discovered to-morrow, there would be immediately ten times as many cases of that disease. It is true that many cases of common enteritis will have disappeared from our diagnostics, but what of that? In the midst of the difficulties of medical experimentation one must be contented with the indications of common experience. One day we shall realize that we have discovered the universal remedy by the infallible sign that we are all constantly ill and perpetually being cured.

BUDAPEST.

Progress in the Study of Cholera.

AT the recent meeting of the Budapest Royal Medical Society, Professor Hugo Preisz read a paper on the progress of cholera research. He pointed out the fact that ever since the acquisition of knowledge concerning immunity reactions, the bacteriological diagnosis of cholera has been on a much firmer basis than was formerly the case. Hardly any other vibrios are known which are capable of reacting with such promptitude as the cholera vibrio. Although the vibrios which originate from undoubted cholera cases are always exactly alike, no bacteriologist can pronounce them to be cholera vibrios without having first applied immunity reactions. Such experiments as have been made in Europe of recent years have all served to strengthen the belief that rivers play an important rôle in the dissemination of cholera. Almost every observer has stated that this disease is most prevalent in districts where river water is generally drunk; and it has been proved that cholera vibrios exist in the waters of the Neva, the Volga, the Doneca, the Pejho, and the Danube. At St. Petersburg it has been shown that in 19 per cent. of samples cholera bacteria are to be found in unfiltered water from the Neva, and even when the water is filtered they occur in 13 per cent. of samples. This latter fact, by the way, is a strong condemnation of the efficacy of the filtering system in the Russian capital. It is interesting to note, continued Preisz, that though vibrios taken from the water and kept carefully for experiment and inspection, have sometimes appeared not to possess the usual properties of cholera vibrios, they have always developed the usual characteristics either after passage through animals or prolonged cultivation. On the other hand, it has been found that cholera vibrios lose much of their property of agglutination by cultivation in water. The reason of this is doubtless that cholera

bacteria, like other bacteria, vary according to circumstances.

From the epidemiological standpoint, it is most important to realize that the cholera vibrio may exist for days, even for a fortnight, in the intestines, not only of persons who have recovered from cholera, but also in quite healthy subjects. Although the vibrios of such "vibrio-carriers" are not very virulent, and such people are not so likely to spread the germs of cholera as are genuine cholera patients, there can be no doubt that the former are capable of disseminating cholera. It is quite possible that of the people about a cholera patient 5 to 7 per cent. may be bacteria carriers, and yet appear perfectly healthy. The germs may also be carried by flies, in which, it has been proved, the fibrios may exist for days and may be inoculated into food. This is an important point if we remember that in the summer vibrios propagate most luxuriantly in foodstuffs. According to recent investigations the vibrio-killing capacity of the contents of the stomach depends not only upon the concentration of the hydrochloric acid, but upon other factors, such as the general gastric contents. Dr. Preisz proved this by pumping out the contents of a stomach after a test meal; in this way he found that it took much longer to kill the vibrios when the stomach contained 0·2 per cent. of hydrochloric acid than when it contained nothing more than a glass of water containing 0.03 per cent. of hydrochloric acid alone. Peptone, albumose, and mucus all weaken the vibrio killing property of the gastric juice to a considerable extent. An interesting epidemiological fact is the variety of circumstances which explain the abatement or complete disappearance of cholera during the winter, such as the decrease in the use of river water for such purposes as drinking, bathing, etc.; the lower temperature, which is unfavourable for the propagation of vibrios both in water and elsewhere; the diminution of traffic; and the far smaller quantity of raw fruit which is consumed during the winter months. But that the cholera germs do remain alive during the cold weather is an established fact, and with the advent of summer they begin to propagate once more on a larger scale; and should their virulence increase and circumstances be favourable, another epidemic may break out. Moreover, the vibrios may remain alive for over three months in the excrements of cholera patients. But one question remains to be solved, What happens to the vibrio when the cholera is really in a dormant state? Does it actually die, or does it by losing its virulence, become an innocent bacillus which cannot recover its pathogenic properties in our climate? It is equally important to discover whether, in places where the cholera is endemic, the vibrios live permanently in the human body or outside it? Serumtherapy has hitherto been useless in cholera since, although serums do kill bacteria the infected body does not in consequence of this get rid of the poison contained in the vibrios; and the serums called antitoxic have been proved to be only vibrio-killing. Recent investigations seem to show that inoculation by means of dead vibrios is an efficacious method of prevention. The recent cholera epidemic in Hungary chiefly ravaged the districts lying along the banks of the Danube; and considering the large number of infected villages the hygienic authorities ought to be very active in enforcing preventive measures if they do not desire to go through some unpleasant experiences.

DEATHS IN THE PROFESSION ABROAD.—Among the members of the medical profession in foreign countries who have recently died are Dr. Nathaniel Pendleton Dandridge, Professor of Surgery at Cincinnati, aged 64; Dr. Ulrich Krönlein, Professor of Surgery in, and Director of, the Surgical Clinic in the University of Zürich; Dr. Stanislaus von Kostanecki, Professor of Organic Chemistry in the University of Berne, aged 50; and Dr. N. Manolesco, sometime Professor of Clinical Ophthalmology in the Medical Faculty of Bucarest.

Correspondence.

STATE SICKNESS AND INVALIDITY INSURANCE.

SIR,—In his letter in the JOURNAL of December 17th Dr. Buist observes: "The rapidity with which Dr. Cooper and I approach each other . . ." If he means by this that we are nearer together because *both* of us have moved from our original positions, the implication is quite erroneous. I stand precisely where I have always stood as the steadfast opponent of the principle of contract practice and the earnest advocate of payment according to work done in medical attendance under any State sickness and invalidity insurance scheme. I cannot see how any language of mine can be twisted into any other meaning. If therefore there be any convergence in our views it must be that Dr. Buist is coming round to the principle I advocate, but I see little evidence of this in the remainder of his letter.

To another statement of Dr. Buist I must take emphatic exception. He says: "Dr. Cooper seems almost to admit that, whether advisable or not, a *per capita* rate of 10s. would be adequate over a parcel of 2,000." I certainly never "almost" admitted any such thing. I said: "I have very little doubt that a good many of the profession might be induced to adopt contract practice and put up with all its drawbacks for a guaranteed income of £1,000 a year"; but I never said that *I* would, and I strongly repudiate Dr. Buist's erroneous inference. In fact, I went on definitely to say that I was opposed, on principle, to contract practice, *whatever the remuneration.*

I think I succeeded in showing that Dr. Buist's tempting bait of £1,000 per annum for medical practitioners, under a capitation fee of 10s., was wide of the mark. On his own showing (p. 1944), and even including the whole of the population of these islands, the average gross income only works out at £562 10s., which is very nearly one-half of Dr. Buist's original figure. (Possibly that is where the convergence alluded to by Dr. Buist comes in. I admit that a drop of nearly 50 per cent. in one week on his part is a considerable step nearer to my estimate.)

But, unfortunately both for Dr. Buist and Dr. Flemming, who takes up the cudgels on his behalf, we cannot include the remaining 30 millions of the population in such a calculation, *for from 10 to 15 millions of these are actual or potential paupers*, who are separately provided for by the Poor Law, and it is certainly not the Government's intention at present to include these in a State sickness and invalidity scheme, so where is the 10s. a head from these to come from? It must, further, be remembered that any income derived from *per capita* payments would be a *gross* income—that is, all professional expenses, cost of premises, conveyances, assistance, and all medical and surgical equipment—would have to be deducted from this, so that the *actual net income* would be very much less than this.

Dr. Buist suggests that we can make up our incomes by attending those who are not included in the State grant. It is only too certain, however, that a very large number of practitioners in the poorer districts would get very few of these outsiders. Further, the amount of time they would have to give to their contract patients, who would certainly have the first claim upon their services, would permit very little, if any, time for outside work.

As Dr. Fothergill points out, the attendance on a parcel of 1,500 beneficiaries would mean at least fifty visits a day, apart from attendances at the surgery. Anyone who knows anything of medical attendance must admit that it is quite impossible to attend to such a large number of cases, spread over a large area, with anything like adequacy, so that a gross annual income of £750 would be a practical impossibility to maintain.

Dr. Buist objects to my reference to exceptional cases. It is just because I know what a lot of exceptional cases there are that I mentioned one, and because the *per capita* system takes no note of exceptions. It merely pushes all the risks of such exceptions on to the already overburdened shoulders of the profession. Indeed, where it is intended that we should take over actual cases of chronic illness requiring constant attendance the whole principle of insurance drops out: it is no longer a possibility or contingency but a certainty of work to be done, which we

should be expected to undertake at an insurance rate. It is, I consider, neither just nor honest to saddle the profession with a heavy load of work, and expect them at the same time to bear all the risks of insurance for all possible temporary illnesses, and to include, as one of the conditions, the great burden of attending the constantly sick or infirm.

The only fair way is to pay for the work actually done according to a reasonable and proper scale of fees. Dr. Flemming's strictures are, I think, somewhat hastily prepared. I have already pointed out one serious omission in his calculation. In my letter to which he refers I stated that the number of medical practitioners in this country was from 30,000 to 40,000; Dr. Flemming says there are 32,000. I will accept this estimate. He then goes on to whittle these down to 25,000 by excluding consultants, specialists, hospital and asylum medical officers, school medical officers, etc. Presumably these are to have nothing to do with any of the 15,000,000 State beneficiaries, or, if so, the State is not going to pay for it; if not the State, who? Does Dr. Flemming suggest that the medical practitioner who formerly received the 10s. capitation grant for a certain beneficiary will continue to receive it when the latter has been removed to an asylum or sanatorium as incurably insane or phthisical? Dr. Flemming questions my opinion that we should probably not get 10s. a head all round, and says, "Why not if we ask for it?" I happen to know that at the present moment the Government is paying for certain medical attendance at *per capita* rates, and instead of giving 10s. it only gives 6s. per head. Is the Government likely to pay 10s. if it knows it can get the work done for less?

Finally, Dr. Flemming taxes me with ignorance of the Government scheme, saying that I argue that a working man with a wife and twelve children would have to pay £7 a year—that is, out of his own pocket. If he had only taken the trouble to read my letter carefully he would have seen that I said "will have £7 a year paid for medical attendance alone for himself and family"—this clearly means paid *for* him out of the insurance fund, not paid *by* him out of his own pocket. The £7 for medical attendance *alone* means that, of course, more would have to be paid to cover the other benefits—namely, payment whilst off work, annuity in case of permanent invalidity, burial fees in case of death, etc.

I may add that I have studied the Government scheme as far it is possible to do (seeing that it is not yet published), but I have never seen it suggested that the *employer* should pay a contribution not only for his employee, but *for the wife and children as well!*

If this were ever contemplated it would be putting a heavy premium upon the unmarried workers, and would hardly have the effect of raising the marriage and birth-rates, about which some of us are nowadays rather seriously concerned.—I am, etc.,

Bowdon, Dec. 17th. P. R. COOPER.

SIR,—The numerous letters on the subject of invalidity and sick insurance, which it is assumed will also provide for medical attendance, have brought out, more than anything else, the deep rooted objection to so-called club or contract practice.

Apart from the fact of low payment, excessive work, unnecessary calls, well-to-do members, prolonged attendance, and no means of getting rid of the patient, however objectionable he may be, there is one fact that is apt to be forgotten, and that is that the club doctor is bound to go to any club member who sends for him night or day and at all times. If he does not go, and another doctor is called in, it has been a common thing for the club doctor to be called upon to pay the fee, or perhaps he is summoned before the committee to explain his conduct.

A club doctor cannot refuse to attend any club member; he is absolutely bound to go. In the case of a private patient he may tell them to go to another doctor, but he cannot tell a club patient this. He *must* attend him. He has contracted to attend so many members at so much a head, and he is bound to carry out his contract or provide a substitute.

If a certain stated fee were fixed for each visit and medicine, and choice of doctor allowed, this objection would be overcome.

Another difficulty in the present contract system is that the benefits cease when the man is out of the district, and no provision is made for his medical attendance elsewhere. For instance, a case occurred quite recently where a member of a club was working nine miles away. He had an accident, fracturing the neck of the humerus, and sustaining other severe injuries. He was attended by two medical men, who administered an anaesthetic, and spent a long time attending him at a distance of five miles from their home. In this case there is no provision whatever for payment of these two doctors. The man himself is one who never pays any one, and will never pay for this medical attendance, even if he recovers. Is this right, and is it fair that these two doctors should do all this without being paid? And yet the man may say that he had provided for a doctor by joining a club. But if a general scheme existed on the basis of payment for work done they would be paid in due course.

I am quite aware that I am assuming that friendly society members would be absorbed into the invalidity scheme, and I am certain that it must be so, and, in my opinion, it will be much better for us if this does happen, for the manner in which many friendly societies treat their doctors is most exasperating. The sooner we dissociate medical attendance from these societies and all other clubs the sooner shall we regain our independence.

The important point for us is to see that we do not let ourselves in for a worse slavery even than this. We do not mind if the arrangements for medical attendance are managed by a committee consisting of medical men and others, but to be called upon by a committee of working men, or, more usually, self-important small tradesmen, to explain one's conduct is degrading and lowering to any self-respecting medical man.

Another point we must keep in mind is that the club or contract system could never exist without the hospitals. If we had to treat all our club patients at home—severe illnesses and operation cases as well—without proper nursing and nourishment, the system would break down at once. Therefore, in a scheme of medical attendance, provision must be made for hospital treatment in special hospitals provided out of the fund, for it is hardly likely that voluntary hospitals, supported by charitable subscriptions, would consent to take on all bad cases occurring among the beneficaries without a protest.

It is thus seen that it will either be a case of subsidizing the hospitals, or erecting special ones, or something on the line of nursing homes; so that if the Government grant *plus* the contributions of employer and workman do not come to a very much larger amount than the present 3s., 4s., or 5s. a year, it will be totally inadequate to provide proper medical attendance.

In conclusion, I should like to express my appreciation of the very statesmanlike way the whole question was put by Mr. Smith Whitaker in his Cardiff address, and for which the profession owes him a deep debt of gratitude. When we consider the foremost part he took in the reorganization of the Association, and the grasp of detail in all matters pertaining to general practice that he possesses, I think we can leave our interests in his hands with great confidence, believing that he will take a broad view of the whole question, and endeavour to secure an ultimate solution of the matter that is to the advantage of the whole profession. We must agree to seek our differences on points of detail and agree on the main principles, and the minority must be willing to accept the decision of the majority.

Let us hope that few will follow the example of the Gateshead Division, and threaten to resign from membership unless they can have their own way. That is not the spirit which should animate members of our Association.—I am, etc.,

Buckingham, Dec. 17th. ARTHUR E. LARKING.

SIR,—Perhaps you will allow me to give my experience as regards the controversy now waging. For the last five years I have been interested in a men's medical club, which has the following rules:

1. The members pay 2d. a head per week.
2. They pay medical fees for work done on the lines, roughly, of the National Deposit.
3. They choose their own doctor.
4. They get back a bonus each year after paying one third of the surplus to a deposit account.

The actual medical fees paid out work out on an average to a contribution of 1d. a head a week for each member.

This small experiment shows some interesting results:

(*a*) The actual fees amount to almost the same as ordinary club practice.
(*b*) The men run the club with enthusiasm. They appreciate the freedom of choice of doctor, and feel they are treated like other people.
(*c*) If they are not ill, they do not trouble the club.
(*d*) The doctor feels that he is treating some one who desires his services in preference to any one else.
(*e*) The existence of the club tends to increase the good feeling in the profession locally.

It may be true, as we are told, that payment per head is the easiest plan to adopt, and the plan sanctioned by years of abuse—in fact, the "good old way"; but I sincerely hope the State will refuse to lend the enormous prestige of its sanction to what is not the best way.

I am convinced that payment for work done is best for us as a profession, but equally and certainly best for the patient. We must surely stand up for the standard which is going to enhance the dignity and progress of our profession, however great the forces of inertia are.—I am, etc.,

Letchworth, Dec. 18th. NORMAN MACFADYEN.

ALCOHOLISM AND DEGENERATION.

SIR,—Sir Victor Horsley appears to have descended to some very slight extent from his pontifical position, and accordingly I will venture again to bring to his notice two questions, to which not only I, but I have reason to believe a good many others, would much appreciate his answers:

First, Why does he quote with approval in his work on alcoholism, not only Dr. MacNicholl, but a variety of other writers, who have not investigated whether the alcoholism of the parent preceded or followed the conception of the child? The answer to this question has nothing to do with our forthcoming criticism of Dr. MacNicholl. It is a criticism of Sir Victor Horsley, and if he does not answer it the readers of this controversy will draw their own inferences.

Secondly, Will Sir Victor explain how it is possible for two groups of persons, one of whom were alcoholic at a given epoch, and one of whom were not, to have children showing no marked difference[1] in age distributions, if the alcoholic habit were largely acquired as the parents grew older? Perhaps he will explain at the same time in which of the two groups—the sober, with no police, employer's, or local record of insobriety, or the alcoholic, reported by police, employers, and local visitors to drink in excess—he places the parents whose alcoholism does affect the health and mentality of their children; for in one or other of these classes (if such a group exists, and he confidently asserts in his book that it does) they must be placed. If parents who were alcoholic before the conception of their children are not in our alcoholic group, but all those parents became alcoholic after the birth of their children (*whether those children be of age 5 or age 14*), where, then, are the parents whose alcoholism before the conception of their children is producing the extensive evils on which Sir Victor Horsley discourses at such length in his book?

These are the questions which it is absolutely necessary for Sir Victor to answer, if he wishes to retain the position he claims for himself as an authority on alcoholism. He will find the less difficulty in doing this in the pages of the BRITISH MEDICAL JOURNAL, because he informs us that Dr. Sturge and he have faced the figures "frequently." I have been so unfortunate as to be unable to discover any serious treatment by either of them of the memoir by Miss Elderton and myself. Their only references that I have seen to our memoir are:

(*a*) A speech by Sir Victor Horsley made on July 28th of this year at a National Temperance League annual breakfast. There was no analysis of our figures, only post-prandial oratory, concluding with a serious misstatement of the circumstances under which our first memoir was published. This misstatement was corrected in your issue of August 13th. We have been awaiting an apology from Sir Victor ever since. The misstatement is repeated again under Sir Victor Horsley's name in the September number of the *National Temperance Quarterly*.

(*b*) An extract from the new edition of Sir Victor Horsley and Dr. Sturge's *Alcohol and the Human Body*. This is purely a rhetorical production, largely interspersed with notes of astonishment, and apparently intended for readers of a shilling edition of their book issued as a temperance manual.

What I demand from Sir Victor is that he shall descend from the temperance platform, where his attitude may impress a popular audience, and condescend to discuss points in a logical and scientific manner such as befits the pages of a scientific journal. If Dr. Sturge and he have "faced the figures" of our memoir, then it must be quite easy for him to reply to the questions I have put to him, and, instead of dogmatically asserting that "fundamentally important figures" are wanting, state what these figures are and how they affect the argument as developed above. If Sir Victor does not do this, I can draw no other inference than the one that he is more keen to defend certain preconceived opinions than to discover actual truths.—I am, etc.,

KARL PEARSON.

Eugenics Laboratory, University of London, Dec. 17th.

[1] The *youngest* group of children is relatively slightly larger in the alcoholic group!

DR. HADWEN AND THE "CRIMSON CROSS" REMEDIES.

SIR,—After evading my questions for several weeks, the "thickheadedness" of which Dr. Hadwen accused himself has at last been penetrated. He expresses a hope that his answers will satisfy me. They do on one point, at least, since they confirm the opinion which most readers will have derived from this correspondence, that Dr. Hadwen is a past-master in the art of evasion. "How do I know?" (I did not ask how he knew, I asked if he did know.) "I don't carry these things about in my head." These are examples of answers which it is suggested ought to satisfy me. At last Dr. Hadwen has frankly confessed that the information "collected independently" in the manuscript books about the Gloucester small-pox epidemic, to which he attaches so much importance, was collected by himself. The value of so-called independent information on that subject, collected by one so full of prejudice, is, in my opinion, a very doubtful quantity, and I am not so anxious to see those large manuscript books, now that I know by whom and for whom they were compiled.

Dr. Hadwen seems to gloat over the offensive attack on the medical profession made by him in a speech from which I quoted. Although I was "a bit spiteful" in introducing it, he now adds further insult. He stands by every word contained in his base insinuations, and goes further by his allusions to the "tyranny and despotism" of the "medical priestcraft." He complains that no one has proved the latter more "bitterly" than he has in his own personal experience. If by this he refers to any annoyance he may have bitterly experienced because his fellow practitioners keenly resent his repeated insults, surely he cannot cavil at this, and has only himself to blame.

He concludes by giving me the direct invitation to meet him in public debate, which he has not given before. As I said in my previous letters, such a challenge has come indirectly on many occasions from various sources, and I have answered that I would deal with Dr. Hadwen if he cared to communicate direct with me. He has the temerity in his last letter to throw doubt on the veracity of those assertions. "I know of no one," he writes, "who has ever received such a message. No such message has ever been conveyed to me." Dr. Hadwen has evidently a convenient memory. In August, 1908, Miss Beatrice Kidd, the Secretary of the National Union for the Abolition of Vivisection, wrote to me on behalf of Dr. Hadwen, seeking to arrange a debate. My reply was to the effect that I would deal with Dr. Hadwen if he himself would communicate with me. On August 28th, 1908, Miss Kidd replied, and informed me that she had submitted my reply to her previous letter to Dr. Hadwen. I have her letter before me now. What of Dr. Hadwen's audacious attack on my veracity in this matter in view of this exposure?

My answer to the invitation to debate, and the magnanimous generosity in offering to bear the whole cost out of his own pocket, is an emphatic No. My reason is, that in my opinion he has forfeited all right to expect medical

men to meet him as suggested, because of his offensive attacks on the honour and integrity of the medical profession. This may have been an example of another bitter experience. If Dr. Hadwen cares to introduce the subject before any medical society at which I might be allowed to do so, I am quite prepared to be present—not at his expense—to stand up for the faith that is in me.—I am, etc.,

Halifax, Dec. 17th. ARTHUR DRURY.

PUBLIC DEBATES ON VACCINATION.

SIR,—The identity of the writer of the article bearing the above title in your issue of December 3rd is not difficult to detect. When Artemus Ward sent a business letter to the editor of a paper asking for a "puff" for his imaginary waxwork show he appended the postscript: "You scratch my back & Ile scratch your back." That is allowable, but that your columns should be open for self-aggrandizement passes comprehension.

We do not get debates with Dr. Drury so frequently as we get General Elections! At the end of practically ten years' trying my score with him now amounts to one, and the sooner it is increased the better shall we all—apparently—be pleased. Therefore, permit me to reiterate what I have so often said—namely, that anywhere and at any time mutually agreeable I shall be glad to meet either Dr. Drury or any other member of the profession to discuss the vaccination question. There need not be any quibbling over details.

With the personal element introduced by your contributor I have little concern, but would like to point out that what I said at Lewisham is typical of my speeches elsewhere, and that even Dr. Drury congratulated me openly upon my "moderation." That scarcely bears out your statement that—

> Paid lecturers . . . attack in a virulent manner the honour and integrity of the medical profession, and vilify all who practise vaccination.

Further, I may draw attention to the fact that these lecturers are not rate-paid, but are voluntarily supported by those who believe in the value of and necessity for their propaganda.

If my chief qualification is what you state, the League must be getting very bad value for the handsome salary they pay me, and for several years I must have held the present position without any substantial qualification whatsoever, for it was long after my appointment that I "endured the penalty of the law." A further inference is advanced that Dr. Drury's experience at this debate whetted his appetite for more. Is it unreasonable to assume that a similar effect was produced upon myself? and it may interest your readers to know that a friend of mine has already challenged the doctor for a debate in Halifax.

I have addressed thousands of audiences, both medical and lay, and have never yet known one to get out of control. Perhaps those whose language is calculated to produce that undesirable effect will consider the advisability of moderation. The solitary approach to anything of the kind at Lewisham was when the seconder of the vote of thanks classified antivaccinators as "ignorant." When such meetings as that have been freely advertised and admission is open to all, does not the fact that the majority present are antivaccinators prove that their views are held by the great bulk of the people? I fail to understand what other deduction can be drawn. My opinion is that the case against vaccination as presented by pro-vaccinist publications and official reports is far too strong to call for either "unrestrained bitterness or animus" on the part of its opponents, but I would like to say that pro-vaccinists in their advocacy, either by pen or voice, do not monopolize the gifts of politeness and fairness.

I take it as a compliment—possibly quite unintentional—that my name is not included amongst the champions of the so-called letter-writing ring who have not been spared by this Colossus of controversy, seeing that he and I have frequently antagonized each other in the public press. The verdict of the readers of the effusions of Dr. Drury and the gentlemen you specify would furnish interesting information.—I am, etc.,

Leicester, Dec. 18th. JOHN H. BONNER.

THE BRADSHAW LECTURE ON CANCER.

SIR,—On opening my JOURNAL this morning my eye was caught by the following strange words: "It is evident that the only advance made by the Cancer Commissioners in our knowledge of the subject is that cancer can be inoculated from animal to animal of the same species," to which is appended the signature, "Kenneth Campbell, F.R.C.S." It is to be concluded that by "Cancer Commissioners" Mr. Campbell can only refer to that earnest and energetic body of inquirers who are trying to unravel the tangled skein of the cancer question at the laboratories of the Cancer Research Fund on the Embankment. If so, I would ask your correspondent a few plain questions. Does he know of his own knowledge that the only thing which has been accomplished by the staff of that important centre of research is that cancer can be inoculated specifically from one to another animal? Has he not overlooked the important fact that the discovery of the inoculability of this disease and the practice of transplantation of it beneath the skin of another animal is not only—nay, not even primarily—to create another growth of the same nature as the other? Is he not aware that the absorption of a spontaneous new growth by an animal into which it has been transplanted exerts an inhibitive, even an immunizing, influence on the body fluids of the recipient, and, so far as it does so, is working for the limitation of new growths in the members of that species to which the preventive measure has been thus applied? Has not Mr. Campbell overlooked the massive labours connected with "early stages" research which have solved for ever the enigma of the actual workings of the implanted graft, in order to establish its new foothold in the new host for the beginnings of its beneficent work of inhibition and immunization? Is it nothing that by such research the resisting power against the incidence of cancer to a given animal may be greatly strengthened by the inoculation under its skin of various specific body tissues, with the enumeration of which, however, I will not weary you? Time would fail me to remind your correspondent of the important truths already brought to light on haemorrhagic mammary new growths of mice, their susceptibility and resistance to inoculation; of the effects of surgical interference with the blood supply on growth of transplanted carcinoma and sarcoma; "of the study of the development of sarcoma under experimental conditions"; of the "natural and induced resistance of mice to the growth of cancer"; and many others which are quite obviously connected with the question under discussion; but finally Mr. Campbell might be able to inform us if he has really considered the important truths bound up with that most recent achievement the patient tracing of the evolution of a carcinoma into a mixed tumour first, and then into a round-celled sarcoma in the second place, accomplishing its own final extinction in the process. With all these questions his "Cancer Commissioners'" names appear to me to be inseparably connected.—I am, etc.,

London, W., Dec. 16th. FREDK. W. WRIGHT.

SIR,—The cases of the cure of cancer reported by Sir Alfred Pearce Gould in the BRITISH MEDICAL JOURNAL of December 10th are extremely interesting, including, as they do, cases of cure *after* removal by operation as well as cases of cure *apart* from operative removal. I have myself seen one such case of cure, in a lady of 70, who was attended by two medical men and by myself for carcinoma uteri, and who is still alive and well, six years after the cure. I have also heard from medical men in England and in Germany of other cases of such cures personally known to them. All these were cures of cancer, apart from operative removal. The case of the lady of 70 resembled, in many of its clinical features, the case of Mrs. E. W., reported by Sir Alfred Pearce Gould, on p. 1843, but the exaggerated peripheral neuritis was severest in the left upper limb, and the fingers of the left hand did not *fully* recover all their former strength and power.

With regard to treatment, Sir Alfred Pearce Gould's statement that "all therapeutic cures are obtainable only by the working of physiological forces" is fully endorsed by Dr. Kleinschrod's "inherent law of life," but Dr. Kleinschrod's book[1] takes us one step further in know-

[1] See Franz Kleinschrod's *Eigengesetzlichkeit des Lebens*, or the English translation, *The Inherent Law of Life* (Bell and Sons).

ledge. Briefly stated, Dr. Kleinschrod maintains that in the living organism physiological phenomena follow the antimechanical laws of Nature, and pathological phenomena the mechanical laws of Nature. The antimechanical laws make for evolution of the organism; the mechanical laws make for devolution. Therapeutic measures which call into activity the latent antimechanical forces of the organism are curative; and no disease—be it cancer or any other—is incurable so long as these can be called forth. The so-called "crisis" in disease is regarded by Dr. Kleinschrod as signal of the victory of the antimechanical forces over the mechanical forces. When the struggle of the antimechanical forces against the mechanical forces is abandoned by the organism, the disease becomes incurable and the organism adapts itself as well as it can to the mechanical law which it finds itself unable to overcome, and it henceforth lives on a lower rung of the biological evolutionary scale.

Dr. Kleinschrod's theory opens up a wide and hitherto unexplored field of research in therapeutics.—I am, etc.,

Wörishofen, Dec. 13th. LOUISE APPEL.

MASSAGE OF THE HEART IN CHLOROFORM COLLAPSE.

SIR,—With reference to the letters of those who have, both in your columns and privately, done me the honour of surveying the "Heart Massage" article which appeared three weeks ago in the JOURNAL, I beg to state that the time mentioned by me as requisite to anaesthetize the patient was at most a rough concept, as I was, during that time, otherwise engaged, and should it seem to the anaesthetist in the case as in any way a reflection on his work, I disclaim any idea or any real ability to vouch for accuracy in this matter, and hope he will give his own "time," which alone is authoritative. I have my own views, however, about the adequacy of four minutes.—I am, etc.,

Aberdeen, Dec. 15th. J. WALLACE MILNE.

TREATMENT OF SCHOOL CHILDREN.

SIR,—While the general practitioner seems to have awakened to the necessity of resenting, and taking steps to prevent, his adult private patients being interfered with by the State, he appears to view with equanimity an equally objectionable proceeding with his juveniles. I refer to the complacency with which the Divisions of the Association are assisting in the formation of "school clinics," which will as completely destroy the position of the "family physician" as clubs and hospitals have hitherto done, and more than State contract practice would in the future do. The argument that these clinics will be officered by general practitioners is beside the mark; even if this proved feasible, and education authorities were content to be served by men who must rust during their term of "off duty," the general practitioner who treats the child is not that child's usual medical attendant, and there is introduced that element of unfair advantage accruing to the doctor who has the opportunity of treating his *confrère's* patients. More serious than this, however, is the compulsion of the patient to be treated by any other than the doctor he chooses, or whom his parent chooses.

Our attitude on this question of the treatment of school children should be the same as we have taken up in regard to State sickness insurance—freedom of choice of doctor, payment by piecework, and the rejection of "institutionalism." If possible, temporize with the municipal authorities, and advise them to wait and see whether the State proposals may not cover treatment of the insured's whole family; if temporizing is impossible, then let us fight this matter out in the town councils as we intend to fight it out in the State parliament, and say flatly that those children whom the municipality wants doctored, and whose parents cannot pay for it, must be left to the private practitioner, his bill being met as "per attendance given."

School clinics have been suggested as an alternative to subsidized treatment at hospitals; subsidized treatment at hospitals is in the hands of the hospital medical staffs, and a word from them is sufficient to prevent it; but even were it not so, I regard the institution of a *second* form of abuse as a greater evil than the continuance or extension of an established one. With State insurance in the air, the hospital question—as the Medical Secretary pointed out at Cardiff—is not far from a solution, but the school clinic, once established, will rather extend than decrease in influence, and will be much harder to get rid of.—I am, etc.,

Bristol, Dec. 10th. HARRY GREY.

"606."

SIR,—In view of the fact that "606" is now being put on the market, it is worth while considering how far this preparation has fulfilled its original expectations. That it has a marked healing effect in certain cases appears certain, but the earlier reports of its miraculous effects were premature, and in many cases exaggerated. The claim that an abortive cure of syphilis, or *sterilisatio magna*, could be obtained by "606" has not been substantiated. Professor Neisser, who was at first a strong advocate of the new treatment, has since modified his opinion, and now suggests a combination with mercury and iodides. Professor Gaucher is by no means enthusiastic, and considers that "606" is only indicated in cases which do not improve under mercurial treatment, but that such cases are rare. As regards the toxic effect of the drug, it is true that so far no case of optic atrophy has been reported, as was the case with atoxyl and arsacetin, but several deaths have occurred after its injection, some of which, if not entirely attributable to the drug, were probably accelerated by it. Taking all this into consideration, it appears questionable whether we are justified in submitting patients, in the great majority of cases of syphilis, to treatment by "606," and perhaps losing valuable time by abandoning mercury and iodides.—I am, etc.,

London, N.W., Dec. 10th. C. F. MARSHALL.

PINEAL EXPERIMENTATION.

SIR,—As there is at least one aspect of this interesting question that is in some danger of being overlooked, I should like, with your kind permission, to draw attention to it.

It will be remembered that recently Dixon and Halliburton[1] prepared in four distinct ways extracts of the pineal organ of 125 adult sheep and injected these intravenously into cats fully anaesthetized with urethane. The only effect they got by large injections was a slight and transient fall of blood pressure; chemical examination showed that it was not choline that cause this fall. Their conclusion was that their work throws no light on the question of the possible physiological action of the pineal body in mammals, and that other methods must be used to determine its functions, if it have any.

But it so happens that a few months previously Marburg[2a] had expressed his belief that the pineal is active in the human subject, but only in early childhood. If he be right, then clearly Dixon and Halliburton have prematurely rejected the extract-injection method, since their extracts were prepared from adult animals.

It is greatly to be hoped, therefore, that the question should be reinvestigated with extracts of the pineal of newly-born or very young rabbits, kittens, puppies, or guinea-pigs; of course, lambs are out of the question, for commercial reasons. It seems to me that the experiments should be performed on two series of animals—namely, (1) very young ones, (2) adults. It is possible that in the case of the former a condition of experimental hyperpinealismus might be induced; in the case of adult animals there should be subsequent microscopical examination of their pituitary, thyroid, parathyroid, adrenals, and genital glands. Marburg described (1) universal adiposity as due to hyperpinealismus, (2) premature development of the genital organs or genital hypertrophy as due to hypopinealismus, and (3) cachexia as A. pinealismus. Of these, Nos. 1 and 2 are the exact reverse of hyperpituaritismus and hypopituaritismus. It seems to me that there may be a functional relationship between the pineal and the pituitary, the former's function waning as the latter's begins to wax. They unquestionably resemble

[1] Dixon and Halliburton: *Quart. Journ. Exper. Physiol.*, vol. ii, July, 1909, pp. 283–285; 4 figs.

[2] Marburg: (*a*) *Deutsch. Zeitschr. f. Nervenheilk.*, vol. xxxvi, 1908, Nos. 1 and 2; (*b*) *Arb. a. d. Wiener Neurol. Institut*, 17, 1909, s. 217.

each other in one respect, in that great phylogenetic changes have taken place in each.

A point of great interest has been recently brought out by the experiments of Crowe, Cushing, and Homans[3]—namely, that puppies survive after complete (that is, microscopically proved complete) hypophysectomy much longer than adult dogs.

These authors suggest an explanation of this fact. Here I would merely throw out the suggestion that there may be another explanation, namely, that the puppy's active pineal may secrete a substance that to some slight extent takes the place, physiologically, of his at present immature pituitary. One would like to see whether injection of pineal extracts made from very young animals increases the duration of life in cases of completely hypophysectomized puppies. Also pineal feeding and transplantation experiments ought to be tried. Fichera's experiments on chickens are of interest in this connexion. They are discussed by Crowe, Cushing, and Homans.

The case of v. Frankl-Hochwart[4a] is instructive: A boy, aged 5½ years, showed at the age of 3 years excessive growth and mental precocity. About five months before death signs of a mid-brain tumour began to appear. About four weeks before death the penis became abnormally large, pubic hair appeared, erections occurred, and the voice became deeper. Autopsy showed a teratoma of the pineal about the size of a walnut; the sella turcica was not enlarged.

Frankl-Hochwart teaches that one should think of a pineal tumour in the case of a young patient who presents, along with signs of a mid-brain lesion: (1) abnormal growth of the body, (2) unusual development of pubic hair, (3) obesity, (4) somnolence, (5) premature genital and sexual development, and (6) mental precocity. On comparing this case with Marburg's views, it seems reasonable to think that it confirms them, for the adiposity, etc., due to hyperpinealismus occurred as the primary condition. We know that excess of function is much more likely to occur early than late. The signs of diminution or loss of pineal function appeared only four weeks before death.

Since this case was published Exner and Boese[5] have published a brief note of their extirpation experiments. They extirpated the pineal in 95 young dogs; they were able to observe 22 of these for a long time subsequently, but only 6 up to the time of the accession of puberty. Their experiments showed no influence on growth, nor on the accession of puberty. The detailed publication of their work is to follow, so that at present we do not know the difficulties and dangers of the operation.

In conclusion, I may refer readers who are interested in the pineal and its possible function to the following abstracts in this year's *Review of Neurology and Psychiatry*—namely, (1) January, p. 47; (2) March, p. 184; (3) April, p. 226; (4) June, 1910, p. 382.

I think I have here included everything, or almost everything, of immediate importance for the experimentalist and the medical practitioner. I append a list of references.—I am, etc.,

London, N.W. LEONARD J. KIDD.

THE CAUSE OF APPENDICITIS.

SIR,—In the JOURNAL for December 3rd Dr. Rainsbury asks for particulars of appendicitis in India. If he will consult the *Indian Medical Gazette* for November he will find details of the surgical work performed in two Indian provinces for 1909.

	Punjab.
Total surgical operations	220,243
Major or "selected" operations ...	23,629
Cataract, extraction of lens	10,663
Stone in bladder	2,248
Hernia	266
Liver abscess	103
Abdominal sections	74
Ovariotomy	26
Appendicectomy	*17*
Hysterectomy	16

Thus, in the Punjab, of 23,000 major operations, only 17 were for removal of the appendix!

In the United Provinces the figures are somewhat similar:

Total operations	188,045
Major operations	not quoted
Amputations	474
Cataract	5,485
Abdominal section	98
Hernia	190
Liver abscess	77
Stone	989
Hydrocele	1,490
Ovariotomy	23

In this table appendix operations are probably included with abdominal sections, so that they are presumably about as numerous as in the Punjab. The total for the two provinces would be 40 appendix operations in over 40,000 major operations! How does this compare with England?

Another correspondent in the same number of the JOURNAL (Dr. Maclachlan) discusses the relationship of rheumatism to the appendix. It is well known that scarlet fever, acute rheumatism, and, perhaps, tonsillitis are far from common in India, especially amongst natives of the country. Some interesting figures were given in the *Indian Medical Gazette* for April last.—I am, etc.,

E. E. WATERS, M.D.,
London, S.W., Dec. 15th. Major, I.M.S.

SIR,—Dr. Rainsbury (BRITISH MEDICAL JOURNAL, December 3rd, p. 1824) asks whether appendicitis is as common in India as in England. My own experience in one of the native States in the Punjab during six years is that appendicitis is a rare disease in India.

During the period I saw only two cases, both in Mohammedans, who, as is well known, are meat-eaters. The population I worked in was chiefly agricultural, and mixed of Hindus and Mohammedans in equal proportions. Their mode of defaecation is natural—that is, squatting position, as usual waterclosets are quite unknown in that part, so much so that on being shown a square closet-box with a massive mahogany lid, the farmer thought that it must be to keep the bread covered and warmed for the evening meal, so as to avoid baking again in the evening (bread in India is always eaten hot and prepared with each meal). Whether Nature's intended way for men to defaecate in the above position has to do with absence of appendicitis in India or not, I cannot say, though "squeezing" of the solitary glands as suggested by your correspondent would hardly make any effect on the glands, which are so deep-seated. It is possible that the freely hanging appendix changes its position if defaecation is done in Indian fashion, and that may have certain influence in determining and protecting the organ against an inflammatory attack. However that may be, one thing is certain: that the rarity of the disease among the Hindus is on account of the buccal hygiene they carry to perfection. No man or woman, rich or poor, would dream of eating or drinking before cleaning his or her teeth with a slender branch of certain trees, which on chewing give a beautiful soft brush, excites salivation, and give pleasant fragrance and taste. After each meal the mouth is rinsed in an orthodox way six or seven times with cold or warm water. Further, they are very regular in attending to the call of Nature every morning directly they get out of bed.

There are two more reasons, in my opinion, why appendicitis is so uncommon among the Indians: First, their indulgence in sour milk as an article of diet with the morning meal; secondly, their abstention from or very little use of meat. Among the Jains, who are strictly vegetarians, appendicitis is unknown.

It would, perhaps, be interesting if other medical men from different districts in India would give their opinions, as customs, habits, and diet are so different in different parts of the country.—I am, etc.,

PAIRA-MALL, M.D., M.R.C.S., L.R.C.P.
London, N., Dec. 6th.

SIR,—The speculations of your correspondents as to the cause of the great increase of appendicitis that we have witnessed of recent years are extremely interesting, and *prima facie* convincing; but before accepting them wholly

[3] Crowe, Cushing, and Homans: *Bull. Johns Hopkins Hosp.*, vol. xxi, May, 1910, pp. 127–169; 44 figs.
[4] v. Frankl-Hochwart, L.: (*a*) *Deutsch. Zeitschr. f. Nervenheilk.*, Bd. 37, 1909, p. 455; (*b*) *Wien. med. Wochenschr.*, February 26th, 1910, p. 506.
[5] Exner and Boese: *Neurol. Centralbl.*, No. 14, July 16th, 1910, pp. 754–755.

it might be well to observe some caution. If, as your correspondents suggest, a widespread change in the mode of life, distributed over years somewhere about the years of the increase of appendicitis, is to be accepted as the cause of the increase, then there are several other probable causes. Appendicitis has been much more prevalent of late years—say the last twenty, for punctilious accuracy is mere pedantry—and twenty years ago we had our first epidemic of influenza. The claim of influenza to be recognized as the cause of the increase of appendicitis would, therefore, be irresistible if it were not that in about the same time—excessive accuracy is finnicking and irritating—we have altered our treatment of tuberculosis and increased our consumption of meat. Undoubtedly the increase of appendicitis must be attributed to these three causes, unless our mode of life has changed in other ways within the prescribed time. And, Sir, it has changed in other ways. Not only has our consumption of meat enormously increased, but our consumption of alcohol has enormously diminished within the same time. Whatever pernicious influence alcohol may exert on the human body, its bactericidal power cannot be contested.

Then, too, it is during the last twenty years that the telephone has attained such an enormous extension. The influence of mental states over bodily processes, and especially the influence of violent emotions on the abdominal functions, needs no insistence on in these days of Christian Science. Who can doubt that the grave emotional disturbance that is produced by the replies "Don't go away," and "Wrong number, sorry," and by the sudden clearance of the line in the middle of an important conversation, especially when this disturbance is repeated daily and hourly, must modify seriously the metabolism of the appendix? Nor must it be forgotten that it was about twenty years ago that the bicycle and the photographic camera became popularized, and it is exactly twenty years ago that the new Lunacy Act came into force. This Act has materially influenced the lives of a large section of the population, and its possible influence, coming into force as it did about the time that appendicitis began to increase in prevalence, must not be ignored. Many other factors stand in much the same relation to the increase in this disease. The habit of riding in tramcars is mentioned by one of your correspondents, and I may mention a negative instance. The practice of rubbing bear's grease into the hair, so prevalent when appendicitis was a comparatively rare disease, is now unknown, and it is unquestionable that a vast increase in the disease has followed the discontinuance of the practice. Let us not therefore be too hasty in assigning the cause of the increase of appendicitis. It may not, after all, be as simple an affair as it seems.—I am, etc.,

London, W., Dec. 12th. CHARLES MERCIER.

PUERPERAL FEVER.

SIR,—Dr. Cory in his letter on puerperal fever states his belief "that the cause of puerperal fever is greatly due to ignorant midwives and nurses who are left to carry out the duties in their own way." I should like to call attention to statements made by Dr. Hope, the Medical Officer of Health for Liverpool, in his report for 1909:

> Out of a total of 23,591 births which occurred in the city during the year 1909, 16,996 births were attended by women. Sixty-two cases of puerperal fever were notified to the medical officer of health in the year, and proved fatal in 21 cases; 34 cases, of which 9 died, were found to have occurred in the practice of midwives; and 2 cases, of which 1 died, occurred in the practice of unregistered women.

This statement should be read with another—namely, that

> Of the rest of the births in Liverpool, 787 were attended by Poor Law institutions, and 2,985, or 12.5 per cent. of the whole number of births, were attended by medical attendants.

Among these two groups—15 per cent. of the whole number of Liverpool births—there occurred 26 cases of puerperal fever with 9 deaths. Some of these deaths would, no doubt, be among cases where there was no birth registered, but, however that may be, it is evident that Dr. Hope implies that among the births attended by medical men there was a large proportion of puerperal fever, though perhaps not to the amount of 51 per cent. that the figures indicate. I think Dr. Hope's figures make two points: First, midwifery in Liverpool is very largely attended by women, there being only an average of about 2 cases per doctor in the city.

Secondly, that the practice of medical attendants has a higher mortality from puerperal fever than that of midwives in proportion to the number of births registered by each. I fear that the undiminished death-rate from puerperal fever throughout the country must not all be put down to careless and dirty midwives; it has been pointed out by Sir William Sinclair and others how often a medical attendant is tempted to use unnecessary operative interference. I would ask, Are medical attendants always mindful of the danger of attending septic cases of various kinds along with midwifery patients? Is it not time that the medical profession declined to undertake the prolonged and responsible attendance on lying-in women for the ridiculous remuneration that is usual? Can those members of the profession who accept guinea midwifery fees honestly undertake to give the time and the careful attention to aseptic technique that are necessary to get good results in midwifery cases? Unless they are, it seems from Dr. Hope's figures that the lay public will become aware that their services do not secure the safety of their patients, and so great discredit will be brought to the profession. I feel quite sure that if Dr. Cory will bring instances of such misdemeanours on the part of midwives as he mentions in his letter to the notice of the supervising authority of his district the cases will receive adequate attention, and the midwives will be so admonished that the evils do not happen again.—I am, etc.,

Liverpool, Dec. 13th. ALEXANDER STOOKES.

SHIP SURGEONS.

SIR,—Several letters have appeared recently in the JOURNAL on this subject, and it is suggested that an association be formed to remedy the position. In my humble opinion the whole matter rests in a nutshell, and is simply a matter for the surgeons themselves. One word—"Combine"—covers all that is necessary. Make one golden rule—that no surgeon shall give his services for less than a minimum salary of £10 a month. I know at least two lines sailing out of Liverpool who invariably engage their surgeons on a shilling a month, and are always able to get plenty of men who want a change—men in practice, who put a locumtenent in charge, and go away for a holiday. They get a nice trip, good table, pleasant society, with a few fees thrown in. This is wrong, to begin with; if a hard and fast rule was made, and surgeons combined, refusing to sail except they received adequate remuneration, and be allowed to charge for advice except the most ordinary complaints, there would be no kick. So long as men will give their services for a shilling a month, it is not likely that shipowners will pay more. Why should they? it is not business. This last voyage a patient consulted me for neuritis of the arm, caused by a fall from his "bicycle," *four months* ago; he never consulted a doctor on shore, but waited till he got afloat, when he can do so for nothing. A few years ago I booked my passage from Melbourne to London via the Cape, in an Aberdeen White Star boat. The captain called on me and asked if I would act as surgeon for the voyage home. I replied, "I would be very pleased to do so, on the usual terms, namely, a return of the £50 I had paid for a first-class ticket, and the usual £10 a month." He answered, "I will give you £25 on arrival in London." "Thank you for nothing," I said, "I am to pay you £25 for the privilege of being your doctor. Not much; consider the deal off." Eventually he had to give a man and his wife a free passage, equalling £100 outlay, the cost of two first-class tickets. Just one more illustration. I took a man out of a steamer in Calcutta to go up country, the captain agreeing on condition that I acted in his place. He was receiving £8 a month. When I signed on the captain said, "One shilling a month," and informed me, as the ship was full up I would have to share a cabin; to get one to myself I had to pay the second officer £10 for the use of his. After retiring from India I wished to take a voyage or two before settling down, so obtained an introduction to Messrs. H. and W. Nelson and Co., who were just building a lot of new steamers for the Argentine chilled and frozen meat trade, sailing to and from Buenos Aires, carrying 130 first and second class passengers. I found these boats very comfortable: the pay was £10

a month, with an excellent well-furnished cabin on the bridge deck, containing writing desks, lockers, two chests of drawers, and a hanging wardrobe, with bunk and sofa, two electric lights, and heated by hot air; with a dispensary on the lower deck, supplied with instruments, including full surgeon's operating case, midwifery and tooth forceps, and Board of Trade scale of drugs, which are fairly liberal.

In conclusion, I consider the whole thing rests with the surgeons themselves; by all means form an association, but make it penal for any one to sign on for less than £10 a month, and things will right themselves. Unity is strength.—I am, etc.,

S. O. BISHOP,
Late District Medical Officer, Galaghat, Assam; Surgeon to the *Highland Corrie*.

Buenos Aires, Nov. 17th.

CONTROL OF VENEREAL DISEASES.

SIR,—Major French's article in the JOURNAL of December 3rd on the control of venereal diseases raises many interesting questions.

I desire only to call attention at present to his treatment of army statistics. He truly says that there are no reliable figures as to the relative incidence of venereal diseases in civil communities in England, and that we must rely on the army statistics. What do the statistics of the home army show during the last fifty years?

In 1860 the rate was 309 admissions per 1,000. It fell steadily till 1870, when it was 201. The statistics from 1873 to 1879 are admitted to be unreliable, owing to concealment of disease. In 1880 it had risen again to 245, and it continued to rise till 1886, when it was 267. From this date till the present time there has been a regular and steady fall, except for an interruption at the time of the South African war. The most recent figures—those for 1908—are 68.4 per 1,000.

Can these variations be connected with any legislative measures, such as those advocated by Major French? The Contagious Diseases Acts were gradually introduced between the years 1864 and 1869. They were in full operation for fourteen years, were suspended in 1883, and repealed in 1886. There was certainly a low incidence of disease in the earlier part of this period, but as the ratio was falling before the introduction of the Acts, and as it was rising again during the later years of their operation, it seems likely that the fall was one of the periodic variations with which we are familiar in other diseases. Since the final repeal of the Acts in 1886 there has been a steady and fairly rapid decrease, and the ratio is now less than one-third of what it was in the last year of their operation.

Turning now to the British Army in India, we find that in 1861 the ratio was 369. There was a fairly steady fall until 1873, when it got down to 166, followed by a fairly steady rise till 1884, when it reached 294. During these eleven years the Lock Hospital system was in full force. During the next eleven years there were frequent changes of policy in India as to this matter, and the unsettled condition must in itself have had a detrimental effect; the rise was accelerated, and in 1895 the ratio was 522.3 (I do not know where Major French gets his figure of 537). Since that time the ratio has been falling every year with accelerated velocity, and now it is only 69.8. This fall Major French explains by the cantonment rules, which provide for notification and Lock Hospitals for women. For my part I am content with the explanation given by the Sanitary Commissioner with the Government of India for the year 1907, who says:

> The fall in the ratio relating to these diseases, which is one of the most remarkable features of the health statistics of European troops in India during recent years, is common to all kinds of venereal diseases. It is attributed to a number of causes, among which may be mentioned, as being the most important, the efforts of regimental officers and other officers to occupy the spare time of the men in healthy pastimes, to make the regimental institutes attractive and comfortable, and to influence the men to avoid contracting these diseases; the better education and higher moral tone now existing among soldiers generally; increased knowledge of the dangers of these diseases, leading to greater care as regards personal prophylaxis; less indulgence in alcohol; the more thorough treatment now carried out in all cases.

Not a word is said about the cantonment rules. This explanation has the advantage of being applicable to the home army as well as to the Indian army. If Major French attributes the Indian improvement to the special measures under the cantonment rules, we may fairly ask him to what cause he attributes the corresponding improvement in the home army, where no such measures are in force.—I am, etc.,

London, S.W., Dec. 14th. H. W. WILSON, M.D.Lond.

SIR,—Major French, in his article in the JOURNAL of December 3rd, urges notification of venereal disease.

This remedy may appear attractive to a military man whose patients are under strict discipline, but for general practitioners who are dependent for their living on the confidence and goodwill of their patients, I fear such a regulation would lead to disastrous results.

Suppose a patient presents himself or herself for treatment, and is notified, the notification is followed by a visit from a sanitary inspector, questions as to the nature of the disease from members of the family and household are inevitably asked, and domestic unhappiness as inevitably follows. What patient will not avoid the regular practitioner and fly to a quack under these circumstances? All the more so if notification is to be followed by two months' detention as Major French desires. That compulsion defeats its own ends is evident.

> In Italy police control was rescinded by administrative ordinance in 1904, on the ground that every sort of direct compulsion for the ascertainment and cure of venereal disease is injurious to public prophylaxis, as it increases the number of persons impelled to conceal their malady and avoid the means of cure. It is claimed that in proportion as the non-compulsory nature of this State aid has come to be understood, increasing numbers of patients, both men and women, have resorted to it, to the great advantage of public health.—(*Preventive Hygiene*, 3rd edition, 1909.)

Nothing but good can result from increased facilities for the treatment and study of venereal disease which Major French rightly advocates; but why not let the treatment be voluntary?

I confess that the position that it is better to let a child run the risk of contracting disease rather than speak to him or her on sexual matters appears to me indefensible. A study of botany and seed formation leads up to the subject in a natural manner, and it ought not to be so impossible to utter a few words of kindly warning on the necessity of controlling the passions until they can be legitimately gratified. It is not necessary to enlarge on the diseases due to vice in order to do this.

If parents, teachers, and guardians are so modest, the child's school-fellows frequently do not observe the same reticence, and often impart information in a coarse and vulgar manner, to the lasting injury of the pupil. With regard to the Mosaic law to which Major French alludes the following quotations are of interest:

> If there be a damsel that is a virgin betrothed unto an husband, and a man find her in the city and lie with her; then ye . . . shall stone them with stones that they die.—Deut. xxii, 23 and 24. If a man find a damsel that is a virgin which is not betrothed . . . and lie with her, then . . . she shall be his wife . . . and he may not put her away all his days.—Deut. xxii, 28 and 29.

—I am, etc.,

Sandycove, Dec. 5th. T. G. PROSSER.

OPHTHALMOLOGICAL QUALIFICATIONS.

SIR,—F.R.C.S.Edin. (Ophthal. Surg.) in the JOURNAL of December 10th, p. 1892, draws attention to the fact that the Royal College of Surgeons of Edinburgh requires candidates to be specially examined in a special branch for the Fellowship, such as aural, abdominal, ophthalmic or obstetric surgery, and it is fair to assume from the signature that your correspondent approves of this method of obtaining an approach to a special qualification in ophthalmic surgery.

It is, perhaps, the nearest approach available to a special ophthalmic qualification, but surely the F.R.C.S. Edin. is short of the ideal; for, like the newly-instituted diploma of the Oxford University, the course of special study demanded, and the examination itself, falls far short of the thoroughness with which the graduate must devote himself to the study of general surgery for the highest surgical qualifications.

Why should there not be properly instituted degrees in ophthalmic surgery, requiring that, after graduation in general medicine and surgery, the candidate should pursue a special course, laid down by ophthalmic surgeons, for, say, two years; and that, instead of an exhaustive study of general surgery, a thorough knowledge of neurology, and other branches of general medicine in their special bearing on diseases of the eye, should be demanded—of course, in addition to a complete knowledge of the anatomy of the eye, and of all the operative and therapeutic measures, and of the pathology of the eye, which are now, or have been in recent times, recognized by the speciality?

Why should the ophthalmic graduate or diplomate be required to show an exhaustive knowledge of the anatomy of the lumbar vertebrae, or of the surgery of the prostate and pylorus, and only a relatively superficial knowledge of his own speciality? Or is it to be inferred that three months is sufficient to make a post-graduate a master of ophthalmology?—I am, etc.,

December 11th. GRADUATE.

EXPRESSION OF THE LENS IN ITS CAPSULE.

SIR,—The great interest which all ophthalmic surgeons must feel in operations for extraction of the lens in its capsule must be my apology for troubling you with this letter, which is suggested by Major Fink's remarks on the subject in the JOURNAL of December 3rd, p. 1825.

We are probably all agreed that, provided extraction in the capsule can be safely done, and that the after-results be even only as good as those gained by the more usual operation, then the former is the ideal method of dealing with cataract, except in juvenile cases.

Three years ago, when the British Medical Association met at Sheffield, I attended mainly on account of my interest in Major Smith's paper, and the exhaustive discussion which I hoped would follow it. Unfortunately, the paper was apparently taken as read, for no mention was made of it. However, he very kindly consented to demonstrate his operation on a patient whom I was able to offer him (with her consent) at the New Hospital for Women, and to discuss it fully afterwards.

I have also read, I believe, the whole of the literature of this investigation, and, so far as I can judge, Colonel Smith is entirely justified in claiming the technique as *his own*. With regard to iridectomy: He did one in the single operation I witnessed, and Major Birdwood in his report in the February number of the *Ophthalmic Record* incidentally mentions that this is still a part of the "Smith" operation. I would venture to refer Major Fink to this report, which will, I feel sure, interest him, if he has not already come across it.

So convinced am I personally that Colonel Smith's operation is ahead of any so far practised, that I am, at considerable cost in many ways, sailing in January to accept his generous invitation to place myself under his tuition for some weeks and to investigate the whole matter for myself.

Whether or no his operation prove, so far, the one best suited to European conditions and needs, the ophthalmic world and the world of suffering humanity owe much, in my opinion, to "Smith of India," or as I have recently heard him called, "Smith of Asia," pending the coming of some genius who shall teach us to how to prevent the necessity for any such operation.—I am, etc.,

London, Dec. 5th. AMY SHEPPARD.

THE COLOUR-BLIND FACE AND VOICE.

SIR,—Candidates for admission to the railway service enter the room in which they are to be tested by Holmgren's wools four at a time, and generally are vigorous and healthy youths and young men. They face the examiner in a mental condition common to the four. The examiner will note the expression of each face. Faces may be classified from a colour sense standard into three divisions: (1) the colour blind; (2) normal colour sense with the mind indifferent to colour; and (3) normal colour sense with mental appreciation of colour.

Select from the four the most suggestive of class 3. Make him first to pick the wools, and direct the remaining three to watch closely. The only difficulty will be the mental equation. The dull face may be an entirely mental condition, and although to the trained observer a distinction can be drawn between a face that is colour blind and a face that is simply colour indifferent, the colour indifferent face is nearly always associated with a dull and unobservant mind, and it will require much experience to avoid mistake. The trained observer will generally be able rapidly to classify the three watching faces. There may remain one about whom he has doubt. His mind must be absolutely critical, his conclusion based upon the value of the face alone. The fact that one face shows strength and intelligence and the other dullness and an ox-like eye indicates mind value, not colour value. I have seen many intelligent colour blind faces, but never a face blind to red and green with any humour in it or any play of expression; it is always a still face and devoid of warmth. The face of a deaf candidate watching the selection of wools is a little suggestive of colour blindness, but should not be confused with one. The voice of the red or green blind in my experience has no appeal in it, and is devoid of inflection or ring. It is as monotonous to the ear as the face of the colour blind is to the eye.—I am, etc.,

Sydney, N.S.W. S. H. TAYLOR.

YELLOW FEVER IN ST. KITTS.

SIR,—I have read Sir R. Boyce's article on yellow fever with great interest and pleasure, as it confirms what I have said for the last twenty-four years of the fever in St. Kitts. A great deal of the so-called bilious remittent fever there is of a continued type, and does not react to quinine, and I have no doubt that the success of the carbolic acid treatment in an epidemic prior to 1886 was due to the fact that the fever was not malarial.—I am, etc.,

Goudhurst, Kent, Dec. 10th. G. H. MAPLETON, M.B.

ADIPOSIS DOLOROSA.

SIR,—I have read the letter of Dr. Middleweek upon adiposis dolorosa[1] with interest, and some degree of painful surprise.

Surely the assumption that this disease is a neurosis (with the lesion in the sympathetic nervous system) is not likely to be accepted to-day. Precisely the same assumption was taught twenty years ago as to the origin of Graves's disease—both instances of readiness to accept the obviously untrue merely because the truth is as yet beyond our knowledge.

To-day both these diseases must be regarded as examples of thyroid gland disturbance, of some excess or diminution or alteration in character of the secretion of that gland. A paper by Dr. Rutherford Jeffrey on the cause of neuropathic states (JOURNAL of November 19th), seems to me to avoid or to ignore the fact that most neuropathic (neurasthenic) states *must have some organic or physical cause*.

That this view will be received as truth in the near future I am fully assured, and in the location of the cause (for example, a toxaemia) must lie the only hopeful method of dealing with these states. I hope to be allowed shortly to contribute something to the study of the connexion between chronic moveable or dropped kidneys and neurasthenia, in my judgement one of the most important, as it is one of the most interesting, issues in practical medicine to-day.

As to Dr. Middleweek's remarks on the Swedish treatment of adiposis dolorosa, I may add a few words on a classic case of this disease that has been under my observation for two years. In this case, occurring in a woman of middle age, the adiposis was extreme and covered practically the whole surface of the body; varying in degree from thick brawny masses over the hips, buttocks, and abdominal walls, to quite small swellings upon the face, fingers, and feet. The case was complicated by the presence of cardiac changes not yet compensated; and this was probably the reason why thyroid extract could not be tolerated in even small doses. Thyreoidectin, however, has given excellent results; and it is interesting to note that whereas three or four capsules were well borne during the height of the disease, one dose daily is as much as the patient can take now that she is convalescing. Massage has always been of great value causing softening and dispersal of the swelling, and giving

[1] BRITISH MEDICAL JOURNAL, December 3rd, p. 1818.

great personal comfort. Any form of gymnastics has been unsuitable for this patient up to the present.

Minor degrees of adiposis dolorosa are perhaps not very uncommon, if looked for. The "dolorosa" is always regarded as rheumatic by the patient; the "adiposis," when very slight, has commonly not been observed, or no importance has been attached to it; it is, perhaps, most common in the upper arms.—I am, etc.,

Leamington, Dec 3rd. PHILIP HICKS.

THE TREATMENT OF MORPHINOMANIA BY THE "COMBINED" METHOD.

SIR,—Having read with the greatest interest Dr. Crichton Miller's paper on the above subject in the JOURNAL, p. 1595, I shall be glad if you will give me space for a few remarks thereon. I wish particularly to emphasize the necessity of treating the psychical side of the disease, while fully appreciating, as does Dr. Crichton Miller, the physical side also. It is the physical rather than the psychical side that has been treated in the past, and very well treated, and it is the absence of the psychical side of the treatment that has prevented the physical treatment of the past being the complete success it should have been had psychic treatment been combined with it. I have treated morphinists by the gradual withdrawal method of Jennings, with the help of his "therapeutic triad," and by the more rapid method of Crothers under bromides, and I have found that in both there has been something wanting, and that something, like Dr. Crichton Miller, I am satisfied is to be found in rightly-applied hypnotic suggestion. There is a physical crave and a psychical crave, and, although without psychic treatment or such conscious psychic treatment as is given by hypnotic suggestion, the suppression of the morphine can be accomplished in most cases with a small amount of distress by either Jennings's or Crothers's method, it can be accomplished in most cases with far less distress—for there is mental as well as physical distress—when psychic treatment by hypnotic suggestion is employed in conjunction with physical treatment.

It is, however, in the after-treatment of morphinomania, the period that begins on the completion of the withdrawal of morphine, that psychic treatment becomes of paramount importance, and it is exactly here where treatment without such psychic treatment has failed in the past and led so often to relapse. Jennings and others have realized the cause of relapses to be the want of what they call re-education, but have not seemed to realize the value of hypnotic suggestion in bringing about this re-education. My experience in the use of hypnotic suggestion in these cases is, like Dr. Crichton Miller's, not of long enough duration to make my records of any great value; but I can certainly say that the cases I have treated by combined psychic and physical treatment have done far better than those which in the past I treated by physical measures only. My tendency has been to rely more and more on bromidization in effecting the withdrawal of the morphine, on account of the possibility of a rapid withdrawal, under conditions less distressing to the patient than a long drawn out gradual withdrawal even when symptoms are relieved to the utmost.

My experience is that except in such cases where it is obviously contraindicated by organic disease of the heart or lungs, rapid withdrawal in a few days under sufficient sedation is without any real danger, heart tonics (sparteine and digitalis) together with alkalis, and other drugs, being given to allay physical symptoms as they arise, and will arise, during morphine suppression. I have never reached the height of sedation and the complete withdrawal of morphine in three days, having contented myself hitherto in attaining my object in from six to eight days after the first dose of bromide was given.

My practice has recently been to commence treatment with hypnotic suggestion for about a fortnight, with the object of training the suggestibility of my patient, and gaining his complete confidence, by full explanation of the treatment, and getting him to understand that I want his complete co-operation, and that I shall do everything I can to assist him to co-operate. During this preliminary treatment the morphine is gradually withdrawn with the patient's complete knowledge and consent; when the suppression begins to be in any way distressing, the bromide treatment is commenced, and when it begins to be effective the morphine is more rapidly withdrawn in proportion to the bromide sedation produced. At the end of from six to eight days the patient is in the semicomatose condition described by Dr. Crichton Miller, and both bromide and morphine are then withdrawn completely, and as soon as the patient becomes again sensible enough, hypnotic suggestions are resumed and continued in decreasing doses during the remainder of the treatment.

While appreciating Dr. Miller's opinion that the treatment should be as short as nine weeks if possible, I think it is a mistake to attempt to make any hard and fast rule, as so much will depend on the physique of the patient, upon his mental health, and the response he makes to therapeutic suggestion. I fully endorse the importance which Dr. Miller gives to the teaching of autosuggestion to the patient as a stand-by when he is left once more to his own devices, and to accustoming of the patient to see and handle the syringe and drugs he has been accustomed to abuse before the completion of his course of treatment. I wish to advocate the preliminary preparation of the patient by hypnotic suggestion before commencing the rapid withdrawal of the morphine under bromides as of value when suggestion has again to be resorted to after the bromide and morphine withdrawal. The patient then knows what is required of him, and is more likely to respond to suggestions, when quick and thorough response to suggestion is of the greatest importance.

Dr. Bérillon, I believe, prepares his morphine patients for treatment in this way before commencing reduction at all, or at all events before carrying it to any extent.

It is as unscientific and irrational to treat morphinomania by physical measures without psychic measures as it is to treat it by psychic measures without physical measures.—I am, etc.,

J. W. ASTLEY COOPER, L.R.C.P.Edin.

Ghyllwoods Sanatorium, near Cockermouth, Cumberland, Nov. 22nd.

"INDUCED CELL DIVISION AND CANCER."

SIR,—In a volume just published by Messrs. John Murray and Sons, entitled *Induced Cell Division and Cancer*, by Mr. H. C. Ross and Dr. J. W. Cropper, our names are quoted either in the preface or in the body of the work. We desire to say that, having had no opportunity of seeing the work previous to publication, either in manuscript or in proof, we think it only fair to disclaim any responsibility for the statements made and the conclusions arrived at by the authors.—We are, etc.,

R. J. HARVEY-GIBSON.
W. A. HERDMAN.
B. MOORE.
J. REYNOLDS GREEN.
C. S. SHERRINGTON.

Liverpool, Dec. 19th.

Universities and Colleges.

UNIVERSITY OF OXFORD.

THE following candidates have been approved at the examinations indicated:

FIRST M.B. (*Organic Chemistry*).—W. G. V. Blogg, K. G. Bowes, L. R. Broster, L. G. Brown, W. H. Butcher, J. B. Cavenagh, R. W. J. A. Cushing, J. F. Haynes, R. J. Inman, O. G. Parry-Jones, P. P. Reitlinger, S. W. F. Underhill, H. St. H. Vertue, D. M. P. Whitcombe.

FIRST M.B. (*Human Anatomy and Physiology*).—A. C. Ballance, C. H. Carlton, J. C. Davies, A. W. Dennis, C. H. L. Harper, A. L. Pearce-Gould, T. O. Thompson, T. A. Townsend.

SECOND M.B. (*Materia Medica and Pharmacology*).—H. T. Evans, R. A. Fawcus, D. P. McDonald, W. R. Reynell, R. C. Wingfield.

SECOND M.B. (*Pathology*).—H. C. Bazett, W. H. Bleaden, N. G. Chavasse, P. L. Gibson, E. G. Martin, G. E. Neligan, W. J. Pearson.

SECOND M.B. (*Forensic Medicine and Public Health*).—A. R. Chavasse, W. A. Cooke, G. E. Downs, H. J. B. Fry, A. D. Gardner, P. L. Gibson, G. W. Johnson, G. E. Neligan, E. O'Connor, E. L. Pearce-Gould, J. F. Penson, R. C. Wingfield.

SECOND M.B. (*Medicine, Surgery, and Midwifery*).—R. F. B. Bowes, A. W. Donaldson, G. E. Downs, G. W. Johnson, E. P. Poulton, A. S. Roe, R. C. Wingfield.

UNIVERSITY OF LONDON.

LONDON (ROYAL FREE HOSPITAL) SCHOOL OF MEDICINE FOR WOMEN.

Building Debt.

THE Council has received the following sums towards the repayment of the building debt: The Goldsmiths' Company, £100; The Mercers' Company, £52 10s.; Miss S. A. Turle, £200;

F. C. N., £52 10s.; The late Mrs. Isabel Thorne, £50; Dr. May Thorne, £50; F. C. T., £50; Sir Charles Burt, £10 10s.; collected by Mrs. Starling, £74 1s.; and smaller sums amounting to £10 10s.

Demonstrators.

The Council has appointed Miss N. Laycock, B.Sc., to be demonstrator in Biology, and Miss I. Pendlebury, B.Sc., to be demonstrator in Physics for 1910-11.

Exhibition and Scholarship.

The St. Dunstan's Exhibition of £60 a year for three years has been awarded to Miss Lilian A. Clark of the City of London Girls' School, and the School Scholarship of £30 to Miss C. I. Fox, of the Mount School, York; Miss K. Lloyd, of the Welsh Girls' School, Ashford, being named *proxime accessit*.

VICTORIA UNIVERSITY OF MANCHESTER.

THE following candidates have been approved at the examinations indicated;

FIRST M.B. (*Organic and Bio-chemistry*).—Gwendolen Birch-Jones, D. R. Garrett.

SECOND M.B., CH B. (*Anatomy and Physiology*).—*L. B. Baird, A. Barrett, F. A. Bearn, J. G. Bennett, E. S. Brentnall, F. S. Charnock, H. F. Hutchinson, H. Kempsey, E. Leahy, *F. L. Newton, W. L. Nicholson, T. P. Robertson, H. A. Sandiford, *E. Talbot, †H. Taylor, C. Thompson, F. K. Tomlinson, C. H. Whittall, H. W. F. Williams, G. W. Wood.

THIRD M.B. (*Pharmacology, Therapeutics, and Hygiene*).—W. Barnes, ‡C. T. G. Bird, L. S. Daly, R. B. Gorst, C. L. Graham, H. Harrison, G. B. Horrocks, T. P. Kilner, F. Oppenheimer, W. J. A. Quine, H. Sheldon.

THIRD M.B. (*General Pathology and Morbid Anatomy*).—F. S. Bedale, §B. B. Berry, §A. G. Bryce, G. C. Dixon, G. Fildes, W. H. Kauntze, J. A. Lees, §P. H. Midgley, §T. H. Oliver, §S. B. Radley, L. W. Sparrow, C. F. White, §A. G. Wilkinson, H. D. Willis.

* Anatomy only. † Physiology only.
‡ Pharmacology and Therapeutics only.
§ Distinction in Pathology.

UNIVERSITY OF LIVERPOOL.

Dutton Chair in Tropical Entomology.

IN 1905 the late Dr. Dutton lost his life in the Congo from spirillum fever, a disease which he, together with the other members of the twelfth expedition of the school were investigating. In view of the many great services that Dr. Dutton had rendered to the investigation of tropical medicine, although he died at the early age of 28, the Liverpool School of Tropical Medicine set about collecting a sufficient sum of money to endow a Professorship in the University of Liverpool connected with Tropical Medicine, to commemorate the sacrifice of his life.

The school has recently been able to offer the university the sum of £10,000 for the establishment of a Chair in Tropical Entomology. This offer has duly been laid before the university, and at a meeting of the council held on December 13th, it was resolved gratefully to accept the offer of the school.

This makes the second Chair given to the university by the Liverpool School of Tropical Medicine, the first being the "Sir Alfred Jones Chair in Tropical Medicine."

Associate Professorship of Pathology.

On the recommendation of the Faculty of Medicine and the Senate, the council has conferred the title of Associate Professor upon Dr. Ernest E. Glynn; for the last six years he has been Lecturer in Pathology in the university.

Tropical Medicine.

The following candidates have been approved for the diploma in Tropical Medicine:

E. Brabazon, L. Castellino, J. A. Caulcrick, W. E. Haigh, H. F. Hamilton, W. St. M. Hefferman, A. Hipwell, J. Homer, W. M. Houston, D. P. Johnstone, A. G. Macdonald, C. C. Murison, P. D. Oakley, I. C. Pratt, E. L. Sieger, P. J. de Sousa, J. H. Waterhouse.

THE JOINT MATRICULATION BOARD.

THE annual report of the Joint Board of the Universities of Manchester, Liverpool, Leeds, and Sheffield, which conducts the matriculation examinations on behalf of the four universities, has just been issued. The report shows that 1,954 candidates presented themselves for the matriculation, which is almost the same number as last year, but the number of those who satisfied the examiners fell from 1,067 to 855. In the previous year the number of failures was less than usual, and the fall in the percentage of passes was partly to be accounted for by the requirement of prose composition in Latin, though the failures were above the average in nearly every subject. While undue strictness in the examination was not desirable, it was felt that it would not be to the advantage either of the candidates or the universities if persons were passed who would not be likely to qualify for their first university examination at the end of their first year of study. It was noted that many candidates had not been well advised in presenting themselves for papers in the higher subjects. These papers were not adapted for candidates for the ordinary subjects, and presupposed at least one year's advanced study. They were intended rather for the best candidates from the higher forms in schools, or for those who intended to enter the honours schools of the universities.

Under the regulations for the inspection and examination of schools, examinations had been held for school certificates, and also form examinations and inspections. The Board had also conducted on behalf of a large number of education authorities in Lancashire, Cheshire, and Yorkshire examinations on which recommendations for the award of scholarships were made, as well as examinations for certain entrance scholarships in some of the universities.

Revised regulations for school examinations will shortly be issued, and will be obtainable from the Secretary at the offices of the Board, 24, Dover Street, Manchester.

UNIVERSITY OF SHEFFIELD.

Chair of Surgery.

MR. R. J. PYE-SMITH has resigned the Professorship of Surgery. The Council has adopted the following resolution:

That the resignation of Mr. Pye-Smith as Professor of Surgery in the University be accepted with great regret. Mr. Pye-Smith, who is the senior member of the teaching staff, has been a teacher of surgery for thirty-four years, first in the old medical school, next in the University College, and finally in the University, and the Council desire to place on record their appreciation of the distinguished services which he has rendered to the cause of medical education in Sheffield.

Lectures in Materia Medica.

Mr. E. W. Adams, M.D. (London and Sheffield), has been appointed to the post of Lecturer in Materia Medica and Assistant to the Professor of Materia Medica, Pharmacology, and Therapeutics.

The Services.

DIFFICULTIES IN CONNEXION WITH THE MEDICAL ADMINISTRATION AND ORGANIZATION OF THE TERRITORIAL FORCE.

[FROM A CORRESPONDENT.]

JUDGING from recent articles and discussions in the lay press, there is undoubtedly a somewhat widely prevalent belief that there are many matters concerning the administration and organization of the Territorial Force as a whole which call for prompt remedial action on the part of the authorities. The present seems to be a suitable opportunity, therefore, for indicating some of those which more particularly affect the medical service of the Force, and while the following summary does not claim to be exhaustive, it is thought that it covers the more salient points involved.

It will be convenient to deal with the subject under the several heads given below.

General Considerations.

General officers and their staffs of the regular service at divisional and command head quarters often fail fully to realize the difficulties under which Territorial officers labour, and the result is that the latter do not always receive that specially sympathetic and considerate treatment to which they are entitled in virtue of their disinterested services to the State. The hectoring attitude not infrequently adopted in the regular army by seniors towards juniors is by no means uncommonly employed by the regular staff towards Territorial officers. There is too great a tendency also to hustle the latter with letters marked "urgent" and "pressing" (often quite unnecessarily) and demanding the immediate submission of replies and reports; and to issue orders calling for action within a period entirely inadequate for the purpose. Medical officers of the Force have their share of these worries, and as most of them are busy practitioners, it will be readily understood that procedure of this nature is apt to prove extremely vexatious to them.

Administrative Medical Officers.

The responsibilities and duties devolving on these officers are very onerous, continuous, and increasing daily. The work is, however, cheerfully done, though it is very discouraging to them to have to make bricks without straw—that is to say, to carry on with insufficient funds the medical administration of their divisions, together with that of such mounted brigades, army troops, territorial units of coast defences, general hospitals, and R.A.M.C.(T.F.) schools of instruction as may be within the divisional areas.

A serious blow to the prestige of A.M.O.s has recently been dealt by the orders conveyed in paragraph 354, Regulations for the Territorial Force, 1910, which places on Command Principal Medical Officers the duty of carrying out the greater and more important part of the annual inspection of field ambulances (including that directed to test their readiness for war and mobilization arrangements), and the whole of that of general hospitals

and sanitary companies. Paragraph 46 of the same regulations, however, lays down that A.M.O.s are responsible for all matters, including mobilization arrangements connected with R.A.M.C. units; but how they can be expected to carry out their duties in these respects, with their hands tied as regards inspection, is a matter which defies comprehension. It can, further, be readily understood that so long as paragraph 354 remains in force in its present shape Territorial medical officers will regard their A.M.O.s as officials of no particular consequence, and will look to Command P.M.O.s for guidance on doubtful points. It is therefore imperative that, so far as medical units are concerned, it be modified forthwith.

There is room for a good deal of decentralization and simplification of work now unnecessarily devolving on A.M.O.s. For instance, while officers commanding medical units are responsible for making promotions to and in the various ranks of non-commissioned officer, and for admitting men to the highest and lowest rates of corps pay, admission to the intermediate (third and fourth) rates of the latter have to be authorized by A.M.O.s. This is anomalous and illogical, and all these advancements should be left in the hands of Os.C. Again, the discretionary powers as to the short-circuiting of routine correspondence allowed by King's Regulations do not appear to be sufficiently realized by regular staff officers in their relations with A.M.O.s, with the result that the latter have frequently to deal with letters and returns which it is quite unnecessary to send through them, and the forwarding of which is mere post-office work, besides entailing avoidable expenditure of time, postage, and stationery.

In view of the exacting nature of their duties, it is not too much to ask that A.M.O.s should receive the same consolidated allowance of £150 per annum as brigade and divisional artillery commanders draw. They certainly have more arduous duties than the former, and probably more than the latter. The allowance might be held in abeyance when they are on inspection, etc., duty, for which pay at regular R.A.M.C. rates is admissible.

Lastly, a more liberal allotment from the R.A.M.C. training grant should be placed at the disposal of A.M.O.s to enable them to arrange more frequent courses of instruction than can now be held.

Staff Officers to Administrative Medical Officers.

Under present conditions these appointments, which are made from regular R.A.M.C. officers on the retired list (though, on paper, those on the active list are also eligible), can only be described as impossible ones, and some half of the total number of posts are vacant. In the first place, the allowance of £100 per annum for each officer is most inadequate, and should be raised to £150 at least. In the second place, their office allowance of £25 per annum for rent, clerical assistance, postage, stationery, and contingencies should be raised to £50, as in the case of brigade majors of mounted and infantry brigades and staff officers of divisional artillery, whose office work is probably much less. At present staff officers to A.M.O.s, owing to the insufficiency of their office allowances, have themselves to do much clerical work—for example, copying, registering, and addressing correspondence and correcting books of regulations from the amendments published in profusion in monthly army and other orders—which should not fall on officers. They may, of course, elect to have their general office expenditure met by county associations concerned (which would each obtain a grant of £20 per annum for the purpose), but the result would in this case be chaotic, as the allowance would be hopelessly inadequate to provide anything but indifferent and very occasional clerical aid, or to meet other expenses. A regular R.A.M.C. clerk should be allowed if the office allowance is not increased; this would be a satisfactory arrangement, as the work is really too technical for a civilian.

Staff officers ought to be paid travelling expenses for themselves and families when they join their appointments and be indemnified against all financial loss whenever they have to move their quarters, owing to change of A.M.O.s.

Lastly, they should be allowed to accompany their A.M.O.s on inspection duty, their assistance being then very necessary. At present this is not allowed, and the regulations relating to their attendance at camp are very nebulous.

Royal Army Medical Corps (T.F.) Schools of Instruction.

It is much to be feared that the utility of these excellent institutions is much cramped owing to the inadequacy of the training grant, from which the pay and allowances of officers and men attending courses are met. Voluntary evening work, not carrying pay, etc., can be and is arranged, both at headquarters and other centres where medical units are stationed, but the really essential courses of instruction, consisting of at least eight working days or twenty-four attendances of one hour each, which are practically obligatory for Captains R.A.M.C.(T.F.) before promotion to Major, and highly necessary for all officers of the corps preparing for examinations, as well as for the men from time to time during their service, cannot often be arranged, as in practice pay and allowances must be issued to those attending, owing to the fact that they have to forego their civil occupations during these courses.

Medical Units.

The quality of the personnel, their keenness and smartness, leave nothing to be desired, but as regards the technical efficiency of the N.C.Os. and men we are again met with difficulties due to the insufficiency of the training grant.

The "Memorandum on the Training of the R.A.M.C.(T.)" issued by the War Office unfolds a somewhat ambitious scheme, on perusal of which one might be led to think that the arranging of the training of the men in military and civil hospitals and other institutions as nurses, masseurs, mental attendants, skiagraphists, electro-therapeutists, operating room attendants, cooks, etc., is a very simple matter. But when it is realized that the funds available are barely enough to provide for anything but the most elementary training in technical subjects, one is driven to the conclusion that the "Memorandum" is an impracticable counsel of perfection. One month's initial training, and a "refresher" course of a fortnight's duration every other year thereafter—say, in lieu of camp—should be the irreducible minimum of training for any of these highly technical branches. The men must, of course, be paid while undergoing the instruction.

While on the subject of "medical units," it may be mentioned that a somewhat peculiar situation may be created (and, indeed, at least one example is known to exist at the present time) by paragraph 72, Regulations for the Territorial Force, which lays down that at centres with more than one unit of R.A.M.C. the senior executive officer in a medical field unit (that is, a field ambulance) will command the corps at the station, and on questions affecting more than one unit will be the channel of communication between units and higher military authority, as well as between units and county associations. This rule apparently overlooks the fact that at a station where there is a Territorial general hospital, the officer commanding the latter may be senior in rank to the officer commanding the field ambulance.

Personnel for Medical and Allied Duties with Combatant Units.

R.A.M.C.(T.F.) personnel for water duties form an addition to the establishment of field ambulances, but are attached on mobilization and for annual training to combatant units. This is an unworkable scheme. Men are not eager to join field ambulances, only to be detached at the very times when they would most wish to remain with them. Some do enlist, it is true, but there can be little doubt that they do so with the intention of transferring to the normal establishment of their ambulances at the earliest opportunity. Men for water duties with Territorial units should, therefore, be taken from the establishment of the latter, but should, of course, be specially trained, as in the case of the present R.A.M.C. men for this work.

Combatant units find their own non-commissioned officers and men to act as medical officers' orderlies, and for sanitary and stretcher-bearer duties. None of these duties are popular, but as regards the orderlies, if it were more generally known that "working pay" at Royal Army Medical Corps rates is admissible (Articles 772 and 790, Pay Warrant), plenty of men would volunteer. Men performing sanitary and stretcher-bearer duties, who do not at present draw working pay, should also be given it, in order to make the work more attractive.

Summary.

It will be clear from the foregoing remarks that the most pressing need of the medical branch of the Territorial Force is a more liberal financial treatment. Other desiderata are the avoidance of impracticability and ambiguity in framing regulations and orders, and the exercise of more judgement and consideration on the part of general officers and their regular staffs in interpreting and giving effect to the same.

ROYAL ARMY MEDICAL CORPS (TERRITORIAL).

FIRST HOME COUNTIES FIELD AMBULANCE.

THE prizes in connexion with the 1st Home Counties Field Ambulance, which has its head quarters at Maidstone, were distributed this year by the Director-General of the Army Medical Service, Surgeon-General W. L. Gubbins, who congratulated Maidstone on the fact that its field ambulance was second to none in the country. He did not attach much importance to the fact that it had not yet reached its full establishment, for quality was more important than quantity. Lieutenant-Colonel Pye Oliver, M.D., in command of the corps, said that its strength was now 10 officers and 238 men. Upwards of 40 more recruits were still required, for 58 men of the corps belonged to the special reserve. At the annual training this year, held near Brighton, 9 officers and 153 men remained for the whole period, and 49 other men for eight days. There was only one man now on the list of non-efficients. The new recruits during the year numbered 51, and 23 men had left the corps to join the regular army or navy. A toast to the Chairman was submitted by Lord Castlereagh, who said that for many years to come Lieutenant-Colonel Pye Oliver would be remembered in medicine for the magnificent work he had done in connexion with the Army Medical Service. He had worked, perhaps, harder than any one filling a similar capacity in the country, and the high standard which the corps had reached was to a very large extent due to his efforts.

A smoking concert followed.

SIXTH LONDON FIELD AMBULANCE.

THE second annual dinner of the 6th London Field Ambulance took place on Saturday, December 17th. It was presided over by the Commanding Officer, Lieut.-Colonel E. Lloyd-Williams, and there was a large gathering of members and their friends. There were very few speeches, the only toasts being "The 6th Field Ambulance," proposed by the A.M.O., and "The Visitors," proposed by Major O'Connor. A musical and variety entertainment was much appreciated by those present.

THE FIRST SOUTHERN GENERAL HOSPITAL.

THE second annual supper of the 1st Southern General Hospital was held in Birmingham on December 17th, the Administrator, Lieutenant-Colonel Jordan Lloyd, presiding. There were present about seventy, and among these were Colonel Whitcombe, Lieutenant-Colonel Barnsley, Lieutenant-Colonel C. H. Howkins, Majors Kauffmann, Eales, Sawyer; Captains Craig, Lucas, Billington, J. M. Young, W. J. Clarke; Lieutenants Forrest, Buchanan, Lunn, McCall, Boeddicker, Boome, Kimpton, Hobling, Hingston, Webb; Mr. Registrar Lowe, and Mr. Howard Collins. Colonel Whitcombe presented the prizes for general knowledge of corps work. Lieutenant-Colonel Barnsley proposed "The Hospital," and Lieutenant-Colonel Jordan Lloyd responded to the toast. Major Sawyer proposed "The Visitors," and Mr. Registrar Lowe responded. Musical and other items were rendered during the evening. During the past year a large amount of work has been accomplished by the Birmingham Branch of the British Red Cross Society, so as to make it possible for the 1st Southern General Hospital to be mobilized in the case of a national emergency. The society has now arranged for the site of the hospital, and also for its equipment in the event of mobilization.

Medico-Legal.

BURIAL CERTIFICATES FOR STILLBORN CHILDREN.

E. E. C. inquires whether the curator of a burial ground can refuse to bury a stillborn child if the medical certificate is written upon ordinary notepaper instead of the printed burial certificate form, as supplied by the registrar.

*** If the same information is given on the written certificate of the practitioner as would be present on the form supplied by the registrar, such certificate would be perfectly legal, and a curator of a burial ground would have no right to refuse to accept it.

MOTOR CAR EXPENSES.

SCRUTATOR.—A. and B. are partners. A. possesses a motor car, which is used exclusively for the practice, B. paying a third share towards the cost of maintenance, repairs, etc., but nothing for depreciation. In the event of buying a new car to be used exclusively for the practice, would it be fair to ask B. to pay in addition to maintenance and repair, something towards depreciation, and if so, what amount, bearing in mind that A. does not want B. to acquire an interest in the car?

*** The data in this query are contradictory. It is said the car is used exclusively for the practice, and yet A. wants to regard the car as his personal property. Where a car is to be used *exclusively* for the practice, it should be owned by the firm, and its expenses paid for like the other expenses of the practice. Where one of the partners claims rights in the car not possessed by the other, it is impossible, without knowing exactly what those rights are, to say what contribution the other should pay towards the car expenses; it is entirely a private matter to be decided by the partners between themselves.

LUNACY CERTIFICATION.

GENERAL PRACTITIONER writes that he notified the relieving officer of his district that a patient of his was a lunatic, and that he, in our correspondent's opinion, required removal to an asylum. The Poor Law medical officer called to see the patient, declined to certify, and accepted him as a private patient.

*** We cannot understand how or by what means this patient has now been accepted as a private patient by the Poor Law medical officer of the district. If this state of affairs has been brought about by the letter written by our correspondent to the relieving officer, we are led to doubt whether the latter has complied with the provisions of the Lunacy Act which bear upon the case in question. We should recommend our correspondent to call once more to see his late patient, and if he then continues to hold the same opinion as before, to write again to the relieving officer to inform him that, in his opinion, the patient is a lunatic *not under proper care and control* and fit for an asylum. He may with propriety add that he is fully prepared to certify to this effect if he should be called upon by any proper authority to do so.

Medico-Ethical.

The advice given in this column for the assistance of members is based on medico-ethical principles generally recognized by the profession, but must not be taken as representing direct findings of the Central Ethical Committee, except when so stated.

THE COURTESY CALL.

NONEX is recommended to communicate with the Honorary Secretary of the local Division of the British Medical Association, who would be ready to advise him. The general principle governing the matter is that the courtesy call should be made upon all practitioners with whom the newcomer may be brought into professional relation, direct or indirect.

CIRCULARS TO PATIENTS.

C. H. W. P.—There is no objection to the circular being sent out so long as it only reaches bona fide patients of the practice. This may not necessarily include all persons whose names are to be found upon the books, if by "books" is to be understood those which have been in use for more than two years.

THE ETHICS OF CONSULTATION.

TENAX.—A.'s position in the case is that of a specialist, although he is in general practice; he should advise on the case and ask permission to write to the family practitioner.

THE OBLIGATIONS OF A LOCUMTENENT.

B.D.—A. and B. were in partnership for seven years, and after the dissolution they continued to practise separately in the same town for five years, A. acting during that time on occasion as locumtenent for B. On B.'s death C. purchased the practice and obtained an assurance from A. that he would not attend any patient of B.'s for six months. We are asked to say whether after the lapse of this time A. is free to attend any patients of B.'s or what he should do if any patients of B.'s consult him.

*** On the facts stated it would seem that after the expiration of the six months A. is at liberty to attend any former patient of B.'s.

Obituary.

DR. JAMES MAXWELL, who was for thirty years Medical Officer for Tobermory, Isle of Mull, died on December 11th, at Campbeltown. Compelled to retire recently from active work owing to failing health, he went to Campbeltown for rest. He was born in Glasgow, and studied at Glasgow University. After settling in Tobermory he took a deep interest in all local affairs, was a member of the school board, and an officer in the Argyll and Bute Artillery Volunteers. He was very popular throughout the island, and was identified with a number of local organizations. At his death he was 54 years of age, and unmarried.

YET another Crimean veteran has passed away in the person of Deputy Surgeon-General JOHN MEANE, who died at Bournemouth at the age of 82. He obtained the diploma of M.R C.S.Eng., in 1850, and entered the Army Medical Service in November, 1852, attaining the rank of Brigade Surgeon in March, 1880, and retiring with the honorary rank of Deputy Surgeon-General in 1881. He went to the Crimea in 1855, and was present at the siege and fall of Sebastopol, where he was wounded, and at the attacks on the Redan on June 18th and September 9th. He was mentioned in dispatches, and received a medal with clasp and the Turkish medal. He also served in the Afghan war in 1878–80, was again mentioned in dispatches, and received a medal.

DR. HENRI HUCHARD, one of the leading physicians of Paris, has just died at the age of 66. His clinical treatise on diseases of the heart and blood vessels (1889-1893) is a classic, and he wrote much also besides—on caffeine, antipyrin, strophanthus, rheumatism, dyspepsia, etc. He was also the author of a well-known work, entitled *Consultations Médicales*, published in 1901. Dr. Huchard was a man of strong personality and a strenuous advocate of the reform of medical education.

Public Health AND POOR LAW MEDICAL SERVICES.

LAVATORY ACCOMMODATION AT RAILWAY STATIONS AND TEASHOPS.

IN the JOURNAL of January 8th, 1910, pp. 89 and 109, we called attention to the question of the lavatory accommodation for ladies at railway stations, and we are glad to find that the matter has been taken up by a conference of representatives of the Royal Sanitary Institute, the National Health Society, the Women's Imperial Health Association, and the Women's Sanitary Inspectors' Association, held on November 21st. Mrs. Oxley Grabham, who has conducted an extensive investigation into the subject, was also present. The following resolutions were carried:

1. That in the opinion of this meeting sufficient sanitary accommodation for women's use should be provided free of charge by sanitary authorities, railway companies, and in places of public entertainment and resort.
2. That in the opinion of this meeting it is essential in the interests of public health and decency that there should be an attendant in charge of the sanitary convenience provided for women's use in public places.
3. That, in the opinion of this meeting, all sanitary conveniences provided for the use of women should be subject to periodical inspection by women sanitary inspectors appointed by the local sanitary authorities.
4. That this meeting desires to call the attention of the railway companies, and managers of theatres and other places of public resort, to the unsatisfactory character of much of the sanitary accommodation provided for women, and to the necessity for having only sanitary conveniences of good modern type and construction.

With regard to Resolution No. 1, it is pointed out that, although the system now so largely adopted by the railway companies of providing lavatory carriages on long-distance trains has proved an enormous benefit to both men and women travellers, still there is considerable evidence that the accommodation for women at railway stations all over the country is often insufficient and insanitary, whilst the necessity for payment, which is still universal for women at railway stations, operates harshly on the travelling public of the more necessitous classes.

Appropriate communications on the subject of the aforesaid resolutions have been addressed by the Council of the Royal Sanitary Institute to the Local Government Board, the Board of Trade, the London County Council, and the principal railway companies.

A CLEAN MILK SUPPLY.

IT has been pointed out more than once that a pure and clean milk supply will be provided as soon as milk consumers realize its necessity and formulate a demand for it. In the meantime, every effort should be made to educate the milk producer as well as the milk consumer in the right methods to be adopted to secure cleanliness and purity. With this object in view, a series of three leaflets have been issued jointly by the National Health Society and the National League for Physical Education and Improvement. The first of the series is addressed to farmers and other milk producers, the second to distributors and retailers of milk, and the third to housewives and all consumers of milk. The advice given in each case is altogether admirable, and is contained in language of the simplest and most understandable. One piece of advice which we do not remember to have seen in any similar pamphlet is very appropriately included. It is, that no child should be allowed to take any part in handling the milk or milk utensils, as children often suffer from unrecognized forms of infectious disease. The printing of the leaflets is excellent, and by a frequent interspersion of thick block type prominence is given to important statements.

DUTIES OF M.O.H. AND SCHOOL MEDICAL OFFICER.

X. Y. Z. will find a great deal of useful information relating to the duties of a medical officer of health and of a school medical officer in the *Public Health Service Directory*, published by Hodgetts, 36–38, Whitefriars Street, Fleet Street, E.C. The duties of a medical officer of health are referred to at some length in Whitelegge and Newman's *Hygiene and Public Health* (Cassell). With regard to the duties of a school medical officer, our correspondent might consult *The Medical Inspection of School Children*, by W. Leslie Mackenzie, assisted by E. Matthew (Edinburgh and Glasgow: Wm. Hodge and Co., 1904. 10s. 6d.), and *Medical Examination of Schools and Scholars*, by T. N. Kelynack (London: P. S. King and Sons, 1910. 10s. 6d.).

DUTIES OF COUNTY SCHOOL MEDICAL OFFICER.

F. W. P.—The county school medical officer is entitled to ask as to the probable duration of a child's absence from school. It might be argued that the education authority should pay a fee to the practitioner for such information, but we believe that medical men have hitherto been in the habit of giving the information as a matter of courtesy and in the interests of their patients. As the inquiry objected to by "F. W. P." refers to a certificate signed by himself, it is difficult to see how the district school medical officer can be involved. As a matter of fact, such questions are dealt with by the school attendance officer, and may not come under the notice of the school medical officer at all.

Medical News.

A SCHOOL of tropical medicine has recently been established in Brussels by Royal decree.

THE King Edward Memorial Fund at Ealing is to be devoted to completing the new hospital in that locality.

THE Berkshire memorial to His late Majesty is to take the form of a children's ward, now in course of erection at the Royal Berkshire Hospital.

THE Duke of Connaught during the course of his visit to Sierra Leone received a telegram from the King containing the following passages: "From the reports of the Governor, Sir Leslie Probyn, who has just relinquished his post after several years of successful administration, I am glad to know of the progress of the Colony and the Protectorate both in civilization and in wealth. It is particularly gratifying to notice that the efforts of the medical staff, supported by the chiefs and the people, have resulted in a marked improvement in the health of the community. I ask you to make it known to my subjects throughout the Colony with what interest I watch over their welfare, and that I trust they may be blessed with peace, happiness, and prosperity."

WE are glad to observe that the Hospital for the Study of Obscure Diseases, Cambridge, has received a legacy of £200 from Miss Marian Julia James, of Hindhead, who died on November 10th. We have several times called the attention of our readers to the work done by this hospital, which is of the highest value from the practical as well as from the purely scientific point of view. Most of its work hitherto has been devoted to that indeterminate condition known as rheumatoid arthritis. It is from the medical profession that the greater part of the contributions towards the upkeep of the institution have hitherto come; but if sufficient support is forthcoming from the public, it is hoped to enlarge the scope of its activity and to include other obscure diseases within the range of its researches. Miss James has also left £500 to the paying patients' ward of St. Thomas's Hospital, and it is directed that in certain circumstances the residue of her estate, which would appear to be over £50,000, shall be devoted to the maintenance of hostels and the making of grants of money for the benefit of educated persons of the professional class of limited means who are in need of a holiday.

Letters, Notes, and Answers.

QUERIES.

M.D., C.C., who suffers from early granular kidney, will be grateful for any hints as to treatment by means of renal or other extracts.

INCOME TAX.

B. AND C. ask advice in the following circumstances: They were in partnership with A., who took nearly half of the profits, and each was assessed separately to income tax. On the death of A. the assessments of B. and C. were raised, on the ground that they will in future have the deceased partner's share.

*** If the practice was an ordinary partnership practice the individual assessments on A., B, and C. were incorrect, and the assessment should have been made in one sum in the partnership named. Had that course been adopted the assessment would have been continued as before, unless B. and C. could prove to the surveyor of taxes at the end of the first year that the profits had fallen on account of the death of A. If the profits are likely to be less than the sum assessed, B. and C. should give notice of appeal, and ask for the duty to be allowed to remain unpaid until they can produce the accounts of the first year of the new partnership.

TREATMENT OF INEBRIETY.

ANTIALCOHOL writes: A gentleman, stated to be a medical man, is being paid by the Government of South Australia to treat drunkards. He is, I understand, an American, and represents an institute which treats alcoholism, and which has its origin in America. The treatment is said to consist in giving a mixture containing cinchona, lobelia, and, I think, cocillana, with plenty of alcohol, for three days. Our correspondent asks for any information as to this institute, its treatment and results, and the ethical position of any one taking it up.

*** We have no information as to the particular institute, but from the claims made it would seem to be one of those irresponsible agencies for getting money under promise of cure for a fee, which are rife in this country, and still more so in America. Cocillana bark is obtained from a number of species of guarea, and is stated to possess some purgative and emetic properties. It has been recommended in the treatment of acute and subacute bronchitis, etc.: it seems doubtful whether it differs materially in its action from ipecacuanha. It is, of course, open for a medical man to adopt any form of treatment (and be paid for it) so long as he exercises his judgement as to its suitability in each case and has an adequate knowledge of the materials he is using. His method of obtaining patients must also be free from criticism. Professional opinion is still strongly opposed to the employment of secret remedies.

ANSWERS.

INVOLUNTARY MICTURITION.

L. D. PARSONS (Gibraltar) writes: In reply to "F. F." in the JOURNAL of December 3rd, I would suggest that his patient be tested with tuberculin to exclude the possibility of any tuberculous focus.

DESTRUCTION OF FLEAS.

DR. FREDERICK WOOLRABE (Health Officer, Government of Queensland) writes: If "M.D." (BRITISH MEDICAL JOURNAL, September 24th) is still troubled with fleas, he might try taking a dose of sulphur daily. I have been in the habit of dealing out a ration of sulphur to the rat gang during plague times.

MOTOR CAR DEPRECIATION.

MOTORIST.—There is an immediate drop in value directly a car has been used and becomes "second-hand." Its amount varies greatly, some makes of cars selling second-hand far better than others. Perhaps an average depreciation would be 20 per cent. for the first year and 15 per cent. per annum afterwards; this is from a selling point of view. A good car well maintained is far from being worn out in six years. To obtain an accurate actuarial estimate of the cost of maintaining the car the loss of interest on the initial outlay must, of course, be taken into account, but not everybody is so accurate in other expenditure.

DISINFECTING SPRAY.

DR. LENNOX WAINWRIGHT (Folkestone) writes, in reply to "M. O. H.": There is a tobacco spray made by Messrs. Merryweather and Sons of Long Acre, W.C. This is an extremely fine spray, and there is a gauge provided to the cistern. It is on wheels and provided with a hose pipe, and may be used for many purposes. For small rooms and ships' cabins or sleeping berths on railroads, one of the Vilbis atomisers, No. 16, can be used, or as an adjunct to the formaline lamp. This is a very small and handy spray, but possesses very little power of penetration.

CHRONIC INTERNAL HAEMORRHOIDS.

VERTEX writes: No one seems to have remembered the remedy so strongly recommended by Sir James Sawyer in the BRITISH MEDICAL JOURNAL, 1904, vol. i, p. 14—namely, suppositories, etc., prepared from the fresh entire plant of pilewort. I have found these answer admirably when all the remedies recently suggested have failed.

LETTERS, NOTES, ETC.

HAEMORRHAGE OF THE NEWBORN.

DR LEONARD H. BRYSON (Colinsburgh, Fife) writes: May I add another case of the above to those recently reported in the JOURNAL? On visiting a patient two or three days after her confinement I found that, just before my arrival, the baby had vomited a quantity of blood. Blood was lying on the floor, bright red and clotted, to the amount of 2 oz. or 3 oz. I gave a grave prognosis and went home for enlightenment, which I failed to find. Beyond being slightly blanched the baby showed no signs of illness and took the breast well all through. It passed a few tarry stools. The baby is now three months old and quite well.

A POSSIBLE FALLACY IN FEHLING'S TEST FOR SUGAR.

DR. L. C. S. BROUGHTON (Birmingham) writes: Dr. J. N. F. Fergusson refers (BRITISH MEDICAL JOURNAL, December 3rd, p. 1825) to this test as an excellent one. The method he gives is a slight modification of Hoppe-Seyler's orthonitro-phenylpropiolic acid test. I cannot agree with him as to its reliability as the great majority of normal adult urines give a positive reaction with it. Professor von Jaksch says that "the indigo test does not afford a reliable means for the detection of grape sugar in urine, seeing that urines proved by reliable tests to be free from sugar will give positive results with Hoppe-Seyler's reagent"—a statement which I believe will be endorsed by any one who has tried it thoroughly.

SICKNESS INSURANCE: PAYMENT FOR WORK DONE.

DR. HENRY HICK (New Romney) writes: We are hearing a good deal about the sickness insurance scheme of the Government, and various plans are suggested by which the general practitioner may be safeguarded from ruin. Now most of these plans appear to be proposed by townsmen for townsmen; the country general practitioner has little chance to attend meetings and make his voice heard, and apparently his town brother does not care enough to consider his interests in his absence. For instance, we are told that payment must be for work done, and "The National Deposit Society" is pointed to as an example of this system working well, and, presumably, one which may be copied in any Government scheme, with the approval of the profession. Will you allow me to give an instance to show what this society does for the country general practitioner? In a sparsely populated district, it is impossible for a doctor to get all round his district each day, and, if he could, the amount of work would not justify his doing so. So it is the habit, in many places, to visit, in the ordinary course, each village on alternate days. Now the country general practitioner has to travel many miles between patients, and the National Deposit gives him 1s. for four miles. I have a patient at a village four miles away, less a few hundred yards. If he keeps a horse and trap for hire, if he sends for me on the day I do not visit that village—say, I may cycle over, but finding the wind too strong to allow my cycling back, I take his trap, he charges me 4s.; the society allows me 2s. 6d. for the visit and medicine, and 1s. for mileage—so I owe my friend 6d. on that transaction. But suppose he has pneumonia, and needs seeing next day, and I cannot cycle. I take his trap for the double journey, and he charges me 6s. I get from the society 1s. 6d. for the visit, and 1s. for the journey, so I owe him 3s. 6d.

CORRECTION.—In the report in the JOURNAL of December 17th, p. 1921, of Mr. J. E. R. McDonagh's paper on "606," read before the West London Medico-Chirurgical Society, the sentence, "For the intravenous injection 3 to 6 grams of the powder should be dissolved in 100 c.cm. of warm distilled water," should be altered to read as follows: "For the intravenous injection 0.3 to 0.6 gram of the powder should be dissolved in 100 c.cm. of warm saline which has been prepared with distilled water." Ordinary tap water cannot be used, since a precipitate forms on adding sodium hydrate.

SCALE OF CHARGES FOR ADVERTISEMENTS IN THE BRITISH MEDICAL JOURNAL.

	£	s.	d.
Eight lines and under	0	4	0
Each additional line	0	0	6
A whole column	2	13	4
A page	8	0	0

An average line contains six words.

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NOTE.—It is against the rules of the Post Office to receive *postes Restante* letters addressed either in initials or numbers.